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THE OIL WEEKLY

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The Oil Man's Calendar

SEPT.	
8–12	American Chemical Society, Atlantic City.
17–19	National Petroleum Association, Atlantic City.
OCT.	
2– 3	West Virginia Oil & Natural Gas Association, Clarksburg.
6– 9	National Safety Congress, Chicago.
9–11	Texas Mid-Continent Oil & Gas Association, Beaumont.
16–17	American Association of Petroleum Geologists, Pacific Section, Los Angeles.
16–18	American Institute of Mining & Metallurgical Engineers, Petroleum Division, Dallas.
20–22	National Stripper Well Association, Tulsa.
20–22	Independent Petroleum Association of America, Tulsa.
30–31	American Institute of Mining & Metallurgical Engineers, Petroleum Division, Los Angeles.
31	California Natural Gasoline Association, Los Angeles.
NOV.	
2– 7	American Petroleum Institute, Annual Meeting, San Francisco.
DEC.	
3	New Mexico Oil & Gas Association, Artesia.
5	Oklahoma Stripper Well Association, Tulsa.

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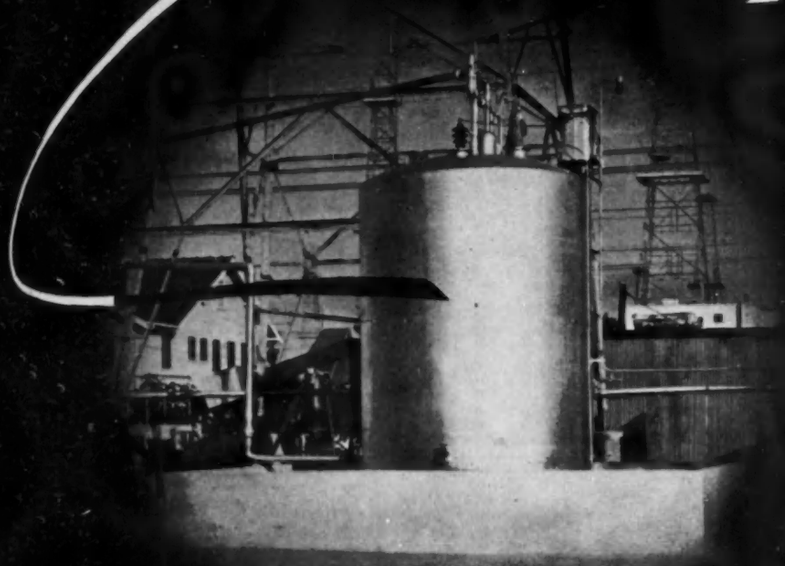

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The Changing Panorama

Japan Embargo Would Hurt California

An embargo against the shipment of additional petroleum supplies to Japan would damage the California oil consumption picture materially, but would have little influence on other parts of the United States. Most of the 55,000 barrels of petroleum purchased daily by the Japanese in this country has been bought in the West Coast, because of its much shorter distance from source to consumption point. In addition, a tight lid on the sale of petroleum to Japanese interests would require the sacrifice of considerable bunker fuel that has been purchased on the West Coast by Japanese vessels.

Therefore, California faces prospects of having further to curtail its daily production, by perhaps 60,000 or 65,000 barrels per day. This would be quite painful to West Coast producers and refiners.

Meanwhile, there is some hope of Russia becoming a larger buyer and taking up some of the surplus that would result from the loss of the Japanese markets. However, there is a problem of transportation involved. Whereas, the Japs used mostly their own tankers, Russia would have to be supplied with tankers from the already greatly short-handed United States fleet.

Pipe Line Boom . . .

Pipe line construction activity, which has been at comparatively low levels for a number of years and was generally conceded to have little prospects for material expansion because the country had been pretty well traversed by major trunk systems, is due for its greatest building period in many years.

Now that the Cole pipe-line bill, granting the right of eminent domain to interstate pipe lines has become a law, the building of major systems to relieve the transportation situation between Texas and the Atlantic Seaboard is assured. These alone will exceed the volume of pipe line building during 1940, but in addition other conditions forecast expanded construction.

With crude oil production at near all-time peaks and runs to stills at record levels, it is necessary to move larger quantities to refineries than ever before. Consequently, in addition to the pipe lines that will be built to the East Coast from Texas, many other systems will be built in the heavy producing areas. This is especially true in West Texas and Western Kansas, where pipe line facilities have been beneath production capacities.

Therefore, a boom in pipe-line construction looms definitely on the horizon. The only barrier to such activity is the possibility that sufficient pipe may not be available because of the national defense program's heavy consumption of steel. Already reports of some construction delay because of steel scarcity have been reported, and others will develop in the future. Despite this situation, sufficient quantities of line pipe are likely to be made available to permit materially expanded construction.

Oil Burners Increase . . .

Besides the comparatively low level of fuel-oil stocks along the East Coast, the indicated sharp increase in heating oil sales during the coming winter is an important factor in the seriousness with which the problem of moving sufficient quantities of this product to the Atlantic Seaboard is viewed by oil companies and the coordinator's office.

The increased use of fuel oil as a heating medium during the coming winter is indicated by the sharp gain in oil burner sales. During the first five months of this year, new orders for 116,690 burners were received compared with 71,273 during the corresponding period of 1940. The backlog of unfilled orders rose from 15,266 at the end of April to 22,612 at the end of May as orders for 36,194 burners were received in May compared with 33,642 in April.

Since May there has been a determined effort to curb the sale of oil heating furnaces, because of the foreseen difficulty in transporting petroleum from Texas to the Atlantic Seaboard due to the diversion of tankers to Great Britain. However, the increase in burners during the first five months of the year already assured that there would be a record quantity of oil used as heating fuel during the coming winter. Most of the increase will occur in the upper East Coast area, as this method of heating has been more popular in that vicinity. Unfortunately, it is this very region that is suffering most from the transfer of tankers to Great Britain.

Russian War Boosts Germany's Oil Needs

An insufficient supply of petroleum products may yet play a part in the downfall of the German military machine. Whereas early in the war it was widely predicted that Germany's highly mechanized army would suffer for want of petroleum, it has been generally conceded in recent months that she had a sufficiency to fulfill her requirements. However, prolongment of the Russian war again raises the question of whether Germany has adequate petroleum for long heavy fighting.

Never before has Hitler fought so long without a rest to catch his breath and replenish supplies of needed commodities, and never before has he fought such an intensive and extensive land war. Whereas in his two previous major land conflicts, France fell in 36 days and Greece in less, Russia is fighting strongly after 40 days. Moreover, the Russian conflict is along an 1800-mile front, while his previously battle lines have been but a few hundred miles in breadth.

There is no doubt that Germany must be consuming petroleum at faster rates in the Russian war than ever before, and if the battle continues without letup over a sufficient time, Herr Hitler may find himself in dire need of oil.

EDITORIAL COMMENT

The Time to Plan Is Now

By RAY L. DUDLEY, Publisher

THE oil industry has an excellent opportunity to show to the nation that it is an industry not only in the forefront of preparedness in national defense, but an industry which has moved long since from the realm of gambling with nature, into the realm of efficient business administration. And in taking advantage of that opportunity, it can avoid criticism which has been heaped on other industries as a result of demands incurred by the present emergency.

Many are prone to criticize the manner in which the national defense plan is working, without meaning at all to doubt the sincerity or the ability of those in charge. They see a chaotic condition which does not permit the best efficiency, and if one should dig to the bottom of the trouble it probably would be found due to faulty or hasty planning, or no planning at all until the emergency hit.

Official Washington is laboring under the idea that all that is necessary to increase oil production is to "open the spigot a little more." Unfortunately the oil industry is partly to blame for this belief.

The oil industry can increase its crude production by taking more oil from many of the existing wells, but no informed person who has made predictions as to what the industry could do, has made those predictions on the basis of a drastic drop in drilling, or on the basis of a drastic curtailment in pumping equipment. Dr. R. E. Wilson, former petroleum consultant to OPM, in testimony before the Cole Committee, reported that the oil industry in the United States could increase its production by 400,000,000 barrels a year over 1940 without discovering any new fields and without any extraordinary increase in drilling. This increased rate of production could be maintained for two years under such circumstances, he said. We have not seen any of the figures nor are we informed on the survey on which Dr. Wilson based his predictions, but we do observe that he obviously meant that ordinary drilling would be necessary to reach and maintain such an increase in production. Other surveys with which we are acquainted are more conservative.

Of course this year will not see the need for a 400,000,000-barrel increase in crude oil production, but it is not beyond the realm of possibility that 1942 will see such need. It even might be considered probable.

If it were not for a situation which is developing in the oil equipment industry, there would be no need for concern. But the situation is developing, and it will likely be coming to a head within a few months. When it does come, some people are going to wonder why it was not anticipated. A check of the principal manufacturers of oil-country equipment reveals a decided concern on their part as to their ability to furnish the equipment which may be needed within a few months. While in conversation one hears that this plant or that plant has only 30 to 60 days supply of steel on hand, we believe, from information we have developed, that there is steel available for a few months supply—probably a very few months supply. But the disconcerting thing about the situation is that many manufacturers, in fact most of them, are not getting replacements and some are desperately wondering where they will stand by the first of the year if not before. Of course there are some who are in bad shape right now. One large manufacturer of pumping equipment last week said that his company had only about two months supply of steel on hand, and that every effort it had made had failed to get additional steel supply. And manufacturers of subsurface equipment say their plight is worse, in many instances.

If the oil industry can drill wells without buying any more drilling equipment, pipe, etc., or can put more wells on the pump without buying any additional pumping equipment, there is nothing to worry about. But if equipment will be needed—and it most certainly will be, something should be done about it as soon as possible.

We believe that if the committees under Coordinator Ickes will attack this problem for the whole industry with the same intelligent zeal with which they would solve a similar problem in their individual companies, it can be solved with a minimum of steel.

The country has been well covered by the numerous committees appointed by Ickes, and if additional coverage is needed, it would be a simple thing to appoint the necessary committeemen.

These committees could study the situation by areas, determine the number of wells which should be drilled and produced to take care of each area's portion of the national demand, and without a great deal of trouble reduce the whole thing to terms of equipment needed.

The job would not be difficult, if undertaken by territories small enough to allow a real study.

Major oil companies make studies as to what their equipment needs will be but unfortunately the smaller operators do not follow this practice to the extent they should. If this matter were studied by the area committees, the whole picture for the industry could be obtained.

Such a study would give Coordinator Ickes and OPM a clear picture of the actual needs of the industry in the way of priorities on equipment.

The oil industry has no right to ask for priorities it does not need. But if a certain job is expected of the oil industry, it should be supplied with the tools necessary to do it.

The suggestion for such a study as we have indicated can come either from Secretary Ickes, or it can come from within the oil industry. It really does not matter who suggests it. It should be done.

Washington Roundup

East Coast enforced rationing appears probable . . . Russia needs tankers also . . . Caribbean tanker requirements reduced half by new system . . . Appointments made to Coordinator's office . . . Wilson resigns . . . Mexican settlement thought likely

By B. F. LINZ, Washington Correspondent

HIS coat off and his air-conditioning going full blast through the hottest spell of the year, Coordinator Harold Ickes last week looked ahead to next winter's cold weather and laid in train his plans to avoid a shortage of heating oils on the beleaguered East Coast.

Preceding his action by a coast-to-coast radio address in which he warned that unless gasoline consumption in the East is cut one-third rationing will be inescapable, Ickes on July 31 ordered all filling stations in the Atlantic area to close from 7 p. m. to 7 a. m., daily, hoping that this action and voluntary restriction would make possible the avoidance of an intricate rationing system.

The week's oil activity came to a boil on the final day of the month, when, in addition to Ickes' "recommendation" for the filling-station shut-down, representatives of the Interstate Compact Commission brought their extended agreement to Washington for Congressional ratification and President Roosevelt signed the Cole pipe line bill.

Russia was revealed during the week as another nation seeking to depend on American tankers for oil transport, but asked for only two ships, in contrast with the British request for 100. Indications are that she will get them, together with priority on 10,000 steel containers for aviation gasoline and other products.

The eastern shortage of transportation will make necessary sharp cuts in the consumption of heavy fuel oil and unless a sufficient number of consumers can be switched over to coal, rationing will be imposed.

Outlook for the coming week: Announcement of further appointments to the coordinator's organization; possible announcement on settlement of the Mexican expropriation issue, and action on heavy fuel oil consumption.

Shortage in District One

Vigorously attacking its first major problem, the marketing committee for District 1 called upon the public to cut gasoline consumption by one-third, warning that unless this is accomplished "rationing is sure, and it will come soon."

In Washington and elsewhere, the committee made its appeal through large advertisements in the local papers, in which it briefly outlined the reasons for the situation and suggested ways in which automobile owners could reduce their gasoline consumption.

Directly under the eye of the oil administration, Washington naturally set the example for other areas to follow. As part of its program for conservation, the local transit company was instructed to institute a "skip stop" system, and 100,000 cards were distributed to automobile owners seeking data on their consumption as a guide for the development of a rationing system when and if adopted.

Ickes himself entered the lists, warning the public in a coast-to-coast radio address July 28 that the question of rationing will be settled, one way or the other, by the middle of August.

Ickes admitted that the drive for voluntary conservation has so far been a total failure, with reports from seven companies showing that deliveries last week were 1,525,979 gallons of gasoline greater than the preceding week, totaling 57,561,771 gallons against 56,035,972 gallons.

"The American people are incurably optimistic," he commented. "The alarm of an impending oil and gasoline shortage in the Atlantic Coast states has been sounded, but little attention has been paid by a people accustomed to an extravagant and even wasteful use of petroleum and its products."

The coordinator disclosed that he met with suppliers of heavy fuel oil July 29, to discuss with them and representatives of the Office of Production Management and the Office of Price Administration and Civilian Supply the imposition of priorities, declaring that "the use of heavy fuel oil along the East Coast may have to be limited immediately."

The affected area, he explained, uses approximately 36 percent of all the motor fuel, 48 percent of all the home furnace oil, more than 40 percent of the heavy fuel oil and 64 percent of the kerosene used in this country.

Dependent upon tankers normally for 95 percent of its supplies, the East Coast necessarily lost some of those ships when England asked for oil tonnage to make up losses in the Battle of the Atlantic. "And some of those still to be sent, when and if needed, will come from the same fleet," he pointed out.

Frankly, he told the country, the East Coast had to face either a possible blitzkrieg or a temporary

gasoline shortage. The government chose the latter.

But the East Coast shortage, he warned, will spread to other areas when, in the effort to ameliorate conditions on the Atlantic Coast, it becomes necessary to use some of the transportation facilities of other sections.

"I assure you that neither the government nor the oil industry has stood idly by," he said. "We have done, we are doing, and we will continue to do all in our power to make up the East Coast transportation deficiency as soon as possible.

"But we cannot build pipe lines or construct ocean-going tankers overnight. We cannot draw too heavily upon the railroad tank cars because this would disrupt the economy of other sections of the country which are as dependent upon tank cars as the East Coast is upon ocean tankers.

"The figures that we will get from the oil companies during the next week or two, when compared with those of today, will show whether there is any reason longer to hope that automobile owners and householders who burn oil will do willingly what we must all do if the common good is to be served."

AHEAD OF THE NEWS

Foreseen as a preparedness move, against increased tanker shortage, it is reported that the Atlantic Refining Company has completed a survey for a large tank-car-loading rack to be erected on the Missouri Pacific Railroad between Kilgore and Longview and near its Kilgore pump station and tank farm, to tank car East Texas crude, if necessary, to its East Coast refineries.

⁂

Increased activity around certain shallow producing areas reflects the improved crude market situation and indicates a trend that may see further expansion in the near future. Smaller operators faced with the possibility of being unable to secure adequate equipment supplies are seeking properties in shallow areas where only minimum equipment and expense are required to obtain production volumes that will be profitable at present price ranges.

⁂

The demand for sweet crude continues exceptionally strong with no ceiling in sight as greater volumes of these oils from North, East and South Texas are being shifted northward. At the same time the not so popular sour crudes of West Texas and New Mexico, production of which could be stepped up considerably without impairing the flowing life of the wells, or aggravating the water situation, are soggy in spots. In fact, the sour-crude market appears to be at the saturation point.

The answer to this situation, it would seem, is for the large refining units to face the pre-war situation and divert more of their capacities to sour-crude handling. This will come but not until the situation forces it. Due to the greater depreciation of equipment when handling sulphur-contaminated oils most refiners will avoid the switch-over as long as possible. In the meantime "hidden" premiums for sweet-crude connections are being offered by some buyers.

Reports coming from the Coordinator's office indicate that it is proposed to have a government representative for each of the four branches of the industry in each of the five regional districts established by the Coordinator several weeks ago. Oil men are speculating as to how the set-up will work. Who will be the dog and who will be the tail? Will the chairmen of the regional advisory committees on production, refining, transportation, and marketing report to the regional Coordinator's representatives, or will they report directly to the Deputy Coordinator at Washington? Some suggest that the appointment of four representatives of the Coordinator in each district indicates that this group will be expected to direct the enforcement of any rules or regulations that may be promulgated.

⁂

Some recent developments indicate that East Texas crude demand will continue firm for a long time. Independent gathering systems are being offered and given contracts by trunk lines that provide cash loans up to $150,000 without interest and to be repaid at the rate of 5 cents per barrel gathering service while supplying the trunk connection with all controlled oil at the posted price. American Liberty Pipe Line Company is reported to have made a deal recently with Beacon Oil & Refining Company to buy that company's 2,000 barrels daily gatherings for five years. American Liberty is supposed to have advanced Beacon $100,000 to be repaid at the rate of 5 cents per barrel gathering service and after the $100,000 is retired Beacon will get 5 cents per barrel gathering for the balance of the contract. Another trunk pipe line company made a similar offer.

In the same field it is reported that efforts are being made by some major companies to lease storage facilities and despite the fact that crude stocks are increasing due to the tanker shortage, these companies are going about lining up additional crude supplies.

Heavy Fuel Conference

At the conference with heavy fuel oil suppliers, Dr. Frey, newly appointed director of marketing in the Coordinator's office, announced flatly that "drastic cuts" in consumption would be ordered along the Atlantic seaboard in the near future.

With officials of the OPM and OPACS participating, the meeting discussed the possibilities of requiring consumers to shift from oil to coal where they can readily do so and laid the ground work for priorities on the delivery of stokers and other equipment necessary for such a change-over.

No action on the restriction of heavy fuel oil use will be made for several days, however, until after a study of detailed information which the companies were asked to supply regarding customers whose plants might be converted from oil to coal and other relative data.

Figures compiled by the independent Petroleum Association indicated that during July stocks of crude along the East Coast increased at a rate of 17,000 barrels a day up to July 19, as compared with an average of 1000 barrels in 1939-40, and that distillate stocks increased an average of 106,000 barrels up to July 26 against a 1939-40 average of 89,000 barrels, but that up to the same date residual fuel stocks increased only 26,000 barrels a day compared with 46,000 barrels and gasoline stocks declined 48,000 barrels daily compared with a 1939-40 decline of 14,00 barrels.

Russia Needs Tankers Too

Russia was disclosed last week also to be a supplicant for American tankers, Deputy Coordinator Davies revealing that the Russian ambassador had asked for one, and later for two, such vessels.

Davies explained that Russia has two tankers of her own but needs more as a result of her war with Germany. It was indicated that she would be given the use of the ships, which probably will be taken from Pacific runs.

The disclosure that consideration was being given to the Russian use of tankers was made in connection with an announcement that Coordinator Ickes had recommended to the OPM the granting of a priority rating on the manufacture of 10,000 steel drums for the shipment of aviation gasoline and other products to Russia. Additional drums will be recommended as the need develops.

The recommendation was made following conferences with representatives of Amtorg Trading Corporation, official Russian buying agency in this country, which has received export licenses from the State Department for a considerable volume of needed oil and other products.

Davies explained that the packaged oil shipments will be carried in Russian vessels, of which there is an adequate supply for the purpose, and will be exported from Gulf or Pacific ports but not from the East Coast. It is planned to have the drums returned to the United States for re-use as quickly as possible.

Tankers for Caribbean

Tanker requirements in the Caribbean area are to be cut more than half by a new system of transportation worked out by Ickes and interested American companies, under which no oil will move by tanker from the continental United States to any island except Cuba. Other islands in the Caribbean will be supplied from Aruba and Curacao.

It was explained that 19 days are ordinarily required for tankers to carry oil products from Gulf ports to most of the Caribbean islands and return, whereas the round trip from Aruba and Curacao to Puerto Rico is approximately 8.6 days. By switching supplies for those islands from the Gulf to Aruba and Curacao, it was estimated, they can be supplied with a full quota with less than half of the tanker space heretofore required.

The plan was worked out in conferences with the Asiatic Petroleum Corporation, Standard Oil Company of New Jersey, The Texas Company, Trinidad Leaseholds, Inc., and various subsidiaries, which also were asked to arrange for the exchange or loan of products among themselves whenever it will facilitate a reduction in tanker tonnage requirements.

Jap Oil Embargo

Denouncing the State Department's policy of "appeasement," Representative John M. Coffee (Dem., Wash.) told the House July 30 that "the people demand an immediate embargo of the export of petroleum products to Japan."

Polls of various sorts have shown that for years 75 percent of the people have been opposed to efforts "to appease the Japanese by bribing them with the shipment of petroleum products in vast quantities," he said, submitting clippings from 45 newspapers in all sections of the country in support of that viewpoint.

Coffee is author of a resolution for a Congressional investigation of acquisition of war materials in the Western Hemisphere by the Axis powers, and in previous Congresses introduced legislation to prohibit the shipment of oil to

SHAKE-OUTS
From The News

The average consumption of steel in this country equals 600 pounds a year for each American. The comparable average for textiles is 30 pounds, and for oil products, 2500 pounds.

»

A news release from the War Department says that making little ships do the job for big ships is one of the moves taken by the Army to conserve its own merchant marine. An example is the use of the recently purchased Diesel-powered ship "Caripetino." This ship formerly flew the flag of Standard Oil Company of Venezuela and is being used as an inter-island transport in the Caribbean Sea. The ship is 176 feet long and has a capacity of 150 passengers. This type of vessel, shuttling between the islands, releases large Army transports from short, many-stop runs, and permits their use on larger operations.

»

Four days and 2 hours were required to transport a 57-tank car train of lubricating oil from an Oklahoma refinery to a New Jersey destination, last week. Shipment is reported to be the largest single all-rail movement of lube from the Mid-Continent.

»

As a precaution against possible sabotage, an airplane patrol has been proposed for the 247-mile pipe line which moves natural gas from the Texas Panhandle to Denver, Colorado. Test patrols are being made over the line in a rented plane but Colorado Interstate Gas Company, owner of the line, plans to purchase a plane for regular patrol trips. For a number of years the larger oil lines have been scouted by plane.

»

A patent just issued to Sterling P. Hart of Long Beach, California, and assigned to The Texas Company, New York, covers use of casein, the protein of milk and the main ingredient of cheese, to prevent caving in wells during drilling. The inventor notes that the tendency for shale to heave in some localities is due to water entering the shale formation, and that this can be overcome by circulating a mud in which casein is dispersed. After the mud has been thoroughly circulated it is withdrawn and a second mud containing a hardening agent for casein, such as formaldehyde, is circulated to form a seal of water-proof "filter cake" which holds the water back. The casein seal will withstand a pressure of 5000 pounds per square inch, the patent states.

»

The OPACS Consumer Division has issued the following suggestions to motorists:

If you own a car you can help defend America in three ways:

By taking good care of the car you have so that it will last longer and by not buying a new car unless you need it badly.

By so driving and taking care of your car that you use only the minimum necessary gasoline, oil, and rubber.

By using your car only when you need to and then using it most efficiently.

A whole set of rules for achieving the above are then set forth in the memorandum.

»

During normal times, a tanker leaves a Gulf Coast port approximately every 1½ hours with about 3,600,000 gallons of petroleum or its products for the Atlantic Coast. An average tanker has a load capacity equivalent to about six trainloads (60 cars each of 10,000-gallon tank cars).

»

New army target is built on top of a gasoline-driven car which runs untended around a figure-8 narrow gauge track.

Japan which, he said, was killed by the State Department.

"The State Department attempts to justify its course by claiming that this policy of appeasement toward Japan has prevented it from seizing the Dutch East Indies and invading Singapore, and perhaps Hong Kong," he said.

"I decry such a course."

Appeasement, he warned, has proved a "frightful failure" in Europe, and has been denounced by the Administration in relation to that area, and will prove equally disappointing with respect to Japan. "Meanwhile," he asserted, "Japan is storing up huge quantities of surplus oil beyond her immediate war needs, all because our Government, in conjunction with that of Great Britain, has pursued its mistaken course."

Mexican Oil Agreement

Spurred by the necessity of presenting a consolidated Western Hemisphere front to Naziism, Washington and Mexican authorities are said to have arrived very near an agreement on the expropriation issue, with possibilities that the accord will be announced before September 1.

Details of the reported agreement are being held confidential pending the consumation of the negotiations, but it is understood that the Mexican government will take a more liberal position than it has maintained in the past.

Possibly involved in the projected concord, it is said, is an agreement on the part of the United States to take Mexican oil as it is to take other Mexican products, to eliminate any inducement for sales to Axis powers.

The Mexican government has reached an agreement with at least two of the American companies whose properties were expropriated in March, 1938, but has been unable to arrange any satisfactory settlement with the others involved. The claims of these companies, however, are expected to be provided for in the accord now being perfected.

Wilson Resigns

Dr. Robert E. Wilson, first oil man to be given a prominent appointment in the national defense organization, has relinquished his post as petroleum consultant of the OPM.

With the concentration of all control of the oil industry in the hands of Coordinator Ickes, the OPM no longer has any direct interest in the industry and there is now no need of an organization in that agency to deal with oil problems.

During his service in Washington, Dr. Wilson was responsible for the initiation of plans for the expansion of production and storage facilities for large volumes of 100-octane gasoline, prime need of the Air Force, and also took a prominent part in planning against the shortage which he foresaw would result from the transfer of tankers to British service.

Hot-Oil Control

Hot-oil control was extended to sections of Texas outside the East Texas field and to Louisiana July 29, when Ickes announced the establishment of sub-offices of Tender Board No. 1 at Midland, Houston, Corpus Christi and New Orleans.

The new offices, which will be staffed by men from the Kilgore board, will exercise general supervision over interstate and foreign oil shipments to enforce the Texas and Louisiana production laws, under the Connally Act.

Selman J. Lones will be in charge of the Midland office; James K. Wilson will head the Houston staff; Lindsay L. Hollingsworth will be examiner in charge at Corpus Christi, and Robert M. Bennett will head the New Orleans staff.

"The principal duty of the personnel in the new offices," Ickes explained in announcing the new set-up, "will be to check all shipments of petroleum from the designated areas in interstate and foreign commerce to make certain that the oil thus shipped was produced in accordance with the state laws and the orders of the regulatory bodies therein."

Cole Bill Signed

The last chapter in the legislative history of the Cole pipe line bill was written July 31 when, by his signature, President Roosevelt transformed the measure into law, paving the way for the construction of pipe lines to serve the eastern seaboard.

Under the act, private constructors of pipe lines are given the right to condemnation to secure the crossing of private land, public roads and railways; the President may order lines built along routes where private companies refuse to undertake construction, and the Government may advance funds to private builders of lines held necessary to the national defense; such lines to be exempt from the Interstate Commerce Act and the Elkins Act.

Projected initially as a result of the refusal of the Georgia railroads to permit pipe lines from Baton Rouge, La., to Greensboro, N. C., and from Port St. Joe, Fla., to Chattanooga to cross their tracks, the bill was given added support from the Administration following the tanker transfer to Britain and the onset of the eastern shortage.

The first defense pipe line proposed by Coordinator Ickes will run from Texas to the Philadelphia-New York refinery area; a number of companies will participate in the construction of the $70,000,000 project. Other lines are to run from Illinois pipe line terminals to the East Coast, and a products line from Texas to the New York area also is under consideration.

Compact Existence

Members of the Interstate Compact Commission visited the White House July 31 to submit to President Roosevelt officially the agreement of the participating states to continue their cooperative program.

The President in the near future will forward the compact to Congress with a message recommending its ratification.

The compact representatives were accompanied to the White House by Speaker of the House Sam Rayburn and Senators Tom Connally of Texas and Elmer Thomas of Oklahoma.

They told the President that the agreement, to which eleven states are party, provides for extension of the existing compact until September 1, 1943.

Coordinator's Staff

Organization of the Washington staff was announced by Ickes July 29, with six of the 11 posts going to men in or acquainted with the oil industry. The group will work under the immediate supervision of Davies.

Heading the organization as special assistant to Davies will be George W. Holland, who will temporarily retire as director of the Interior Department's division of petroleum conservation.

Robert E. Allen, former chairman of the Petroleum Conserva-

tion Board of Alberta, Canada, and associated with conservation activities since 1929 when he was assistant oil umpire of California, and who started in as a tool dresser and roustabout in the West Virginia fields, was named director of production.

Wright W. Gary, New York, for the last six years assistant to the vice president of M. W. Kellogg Company, who began with Continental Mexican Petroleum Company 20 years ago, was appointed director of refining.

H. A. Gilbert, New York, a member of the American Petroleum Institute and of its central committee on tanker and barge transportation, who organized the Oil Transfer Corporation, will serve as director of transportation.

John W. Frey, associate director of the Petroleum Conservation Division, will be director of marketing, and Edward B. Swanson, also an associate director of the division, will be director of research.

E. DeGolyer, Dallas petroleum geologist, engineer and independent producer, was named director of conservation.

Herbert A. Yocum, Washington newspaper man, was taken from the Associated Press to head the information division. J. Howard Marshall, San Francisco attorney, who was a member of the Petroleum Administrative Board under the NRA and later assistant solicitor of the Interior Department and a special assistant to the Attorney General, will be chief counsel. Stanley W. Crosthwait, assistant to the Commissioner of Indian Affairs, was selected as executive officer, and William S. Arnold, New York advertising man, was named a special assistant for liaison with other federal agencies.

Little Hope That Eastern Gasoline Consumers Will Volunteer To Curtail

HOW to bring about a reduction of a third, possibly half, in consumption of gasoline in the Eastern states deprived of their normal supplies by the transfer of tankers to the British "shuttle" service, without entirely disorganizing the transportation habits of the people, is proving a serious problem to Washington officials who soon may be called upon to put enforced rationing into effect.

Little hope is held that East Coast gasoline consumption can be reduced by one third through voluntary efforts on the part of consumers. The trouble with the voluntary idea is that most people prefer to let the other fellow do the volunteering. Therefore, it is probable that some sort of enforced rationing is to come soon on the Atlantic Seaboard from Maine to Florida.

Study Rationing Systems

Interior Department experts are understood to have worked out a rationing system, cards and all, for Petroleum Coordinator Harold L. Ickes, but are keeping the results of their studies a close secret.

It is admitted, however, that the system worked out may be far from the simplest solution of the problem, and other methods are being considered, although officials generally agree that it will be difficult to work out a formula that will give each consumer his share of the gasoline conforming to his needs.

So far as can be learned, the Interior Department scheme is nothing more or less than the accepted version of rationing, the distribution of cards which will enable each person to purchase a stated amount in a given period, but it is understood that the allowable will be based in each instance upon the "necessary" driving of the car owner, which will involve consideration of the distance of his home from his work, the adequacy of other methods of transportation and like questions.

Stations Close at Night

In the hope of avoiding formal rationing, Coordinator Ickes, on the recommendation of the marketing committee for District No. 1 (Atlantic Seaboard area), last week asked 100,000 filling stations from the Canadian border to Florida along the East Coast to close from 7 p. m. to 7 a. m. for 12 days beginning August 3.

Oil companies, while favoring the plan, were somewhat skeptical of its probable success, pointing out that motorists would obtain their supplies during the open hours and in most instances would be able to procure sufficient quantities to permit them to do all the driving they desired. However, it was conceded that the closing of the stations would "bring home" to motorists the acuteness of the gasoline situation and might promote more voluntary curtailment of car use.

The 12-day night shutdown trial is to be applied in the New England states, New Jersey, Delaware, Maryland, the District of Columbia, North and South Carolina, Georgia and the peninsula of Florida, as well as the marketing areas in or east of the Appalachian mountains in New York, Pennsylvania, Virginia and West Virginia and such other marketing areas in those states which depend substantially for supplies of motor fuel produced or shipped in from any part of the restricted section.

The coordinator's order was issued in the form of a recommendation to the industry, but since it was suggested to him by representatives of the industry itself, he said he had no doubt that it would be applied universally throughout the area. While Ickes admitted he had no authority to prosecute any dealers who refused to comply with the closing requirements, he expressed the opinion that if such refusal was communicated to the supplying companies they would

see that the dealers received only sufficient gasoline to carry them through the day.

"I never received such cooperation in my life," he said, when asked whether the industry would fall in line. "The marketing committee in District No. 1 has voluntarily raised $250,000 to spend on advertising in newspapers, trying to persuade the people not to buy their products. Did you ever hear anything like that?"

Oil Firms Favor Closing

Ickes declared that there is considerable sentiment among filling station operators for night closing and that it is not believed there will be any unemployment as a result, while the operators will cut their running expenses considerably.

"With a reduction in consumption of one third the retailer is faced with the necessity of reducing his operating costs," he explained. "This no one can do alone. But if all cut their hours of operation to the same extent, the operating costs of all can be reduced in a degree proportionate to the reduced volume of business.

"We hope that this curtailment, plus voluntary curtailment, will be enough to put us across," he added. But, he said, both shut-down and voluntary curtailment are necessary and neither, alone, would be adequate to stave off rationing.

The shut-down program was developed by the marketing committee at a meeting in New York July 24, it was disclosed. Under the plan, all stations will shut down at 7 p. m., for a 12-hour period, except those exclusively supplying motor fuel to commercial vehicles, so classified by law, such as interstate buses and trucks. Provision also is made for the sale of gasoline for any vehicle "in the event of an emergency involving public health or safety."

Whether the plan will enable the oil administration to avoid the adoption of rationing orders will be developed by the sales figures which are being supplied on a weekly basis by the various oil companies in the area.

Considerable uncertainty exists both in oil company and government circles as to the most practicable means of allotting gasoline to individuals on an equitable basis. In addition to the suggestions previously outlined, other ideas have been suggested, but they are chiefly of the "drive slowly and keep your car in condition" type which by no stretch of the imagination would result in the saving of any great volume of gasoline.

Several government departments have issued orders that official cars shall be driven in conformity with recommendations for slower speed and frequent check to motors, as an example to the public, and there is no doubt that a considerable volume of gasoline can be saved in this way, but the Bureau of Standards, by tests, has shown that the percentage saving will be very small. Coordinator Ickes also has been having park policemen watch for "smoking" cars.

The idea of limiting supplies to bulk stations or filling stations is generally considered unworkable also. If this were done, the bulk station manager would either have to fill orders as they came, thus facing the probability that latecomers would have to go completely without, or try a homemade brand of proration which would please few and displease many. The plan, if applied to filling stations, would create precisely the same difficulties as between stations and consumers.

Consequently, it is generally conceded that the prospects for getting away from rationing cards is indeed slim.

European Situation Different

Application of gasoline rationing has not been difficult in England and Europe, but in the United States it would be a far different problem.

In England, for instance, the average industrial worker cannot afford to have a car; distances are short, even from one end of the country to the other; and motors are in most cases of low horsepower.

In the United States, a large percentage of workers own cars and need them to get to their places of employment; distances are great and the low cost of gasoline leads to much pleasure driving, and the average motor is probably around 100 horsepower or more.

But the most important factor is that the motor car has resulted in a tremendous spreading out of cities, thousands of workers living in areas miles from their work. Because of the widespread ownership of automobiles, transportation companies have not attempted to give far outlying sections of cities more than skeleton transportation, if any. The cutting off of gasoline from privately owned cars would swamp the trolley and bus companies, which would be reluctant to invest large sums in new cars and buses for a short emergency even if they were assured of immediate delivery.

Thus is presented a problem which cannot be dealt with by the stroke of a pen. Official Washington, where these transportation questions are more vividly displayed than in many other cities, because of the thousands upon thousands of new workers brought in by the government, is well aware of the possibilities that the industrial activity of the East, now largely devoted to defense, might be badly disrupted by any rationing system which did not take these factors into consideration.

It is because of this situation that Coordinator Ickes is appealing for voluntary conservation on the part of the public, reluctant to impose restrictions unless they become inescapable.

Admittedly, it is said, the only way to insure achievement of any percentage cut decided upon, is to figure the normal consumption of an area, reduce it by the amount to be saved, and parcel out what is left among the various classes of consumers.

But to achieve that desideratum without depriving some of essential supplies and giving others more than they actually need as a minimum, is something else.

Less effective but easier of administration is the "Canada plan" of closing stations on Sunday only, which is aimed at the elimination of pleasure driving. But how much of the automobile mileage of the average American car owner is pleasure is a point on which opinion differs. One organization, following a "case" study, decided, pleasure driving comprised possibly 10 percent of the total mileage, and contended that even most of the Sunday road traffic is "necessary" use.

How to reduce the consumption of gasoline is, accordingly, one of the most delicate questions with which the Administration has been called upon to deal. Maybe the Interior Department experts have worked out a way of accomplishing a reduction easily and equitably. But any other form of rationing will not be agreeable to the people affected, and is certain to result in criticism that the government should have taken steps to provide for its own people before giving England the facilities so seriously needed at home.

Acidizing Before Cementing Helps Form An Effective

Bottom-Hole Water Block

By FRANK B. TAYLOR, Staff Writer

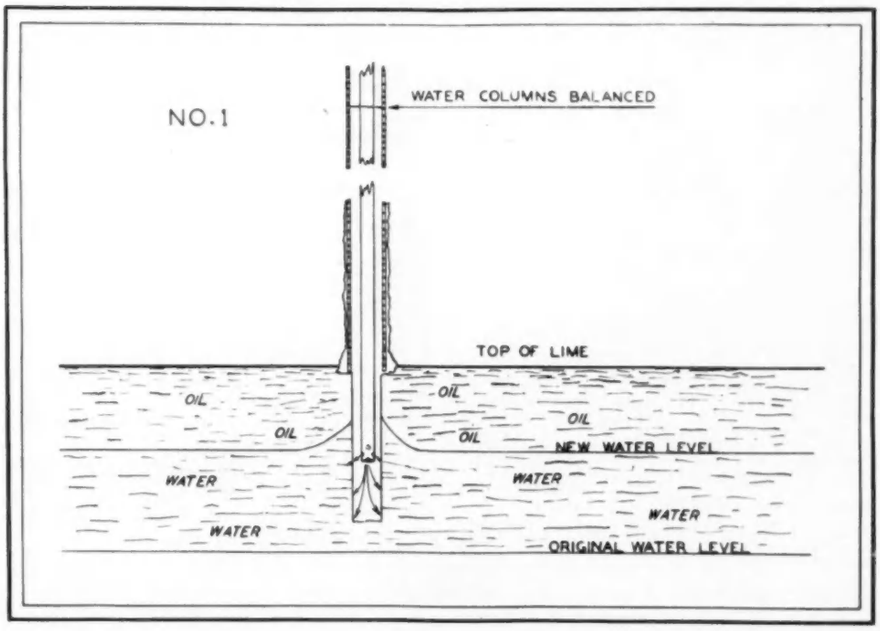
CONTROL of formation water long has been a problem in Kansas production. Arbuckle lime, the dominate producing stratum in the western part of the state, normally carries excessive volumes of water. As there is no dissolved gas to expand and take the place of the crude produced, formation water immediately begins to move laterally toward the well, and generally intrudes into the bore hole within a few months time.

Various methods have been employed to plug off the water section as it progressively rises, for production of large quantities of water do not mean that the crude oil in the reservoir has been exhausted. Recently, some companies have been devoting their efforts toward creating a non-permeable cement bottom-hole water block after the stratum has been opened somewhat by controlled acid treatment. While the method is yet too young to have been applied extensively, results so far obtained have been distinctly promising.

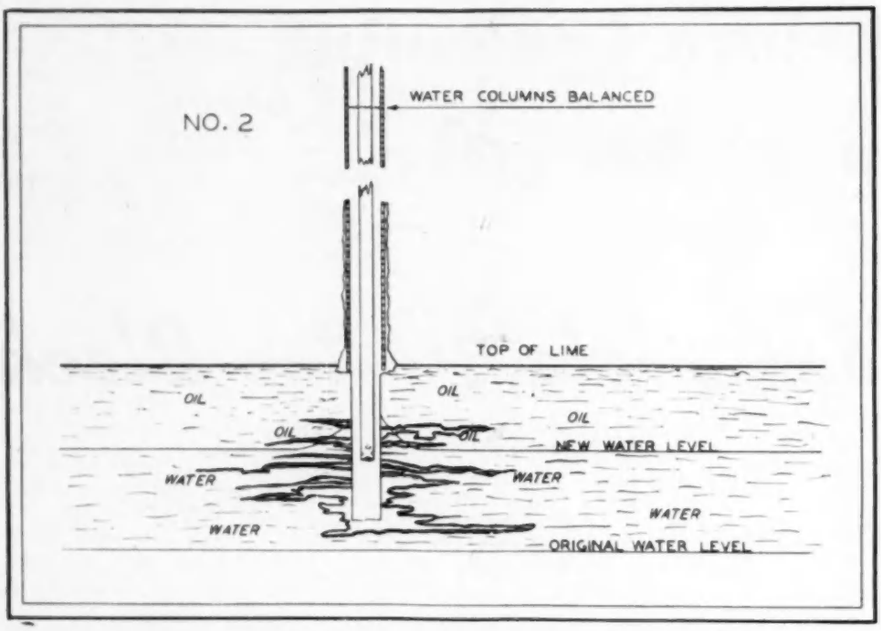
Through application of this new technique, a cement block that extends back into the formation through opened crevices is obtained, instead of a cement plug in the bottom of the hole that adheres merely to the face of the water section. The permeability of the water zone is lowered to practically zero by forcing cement into the pore spaces made available by the acid treatment. As the block extends into the formation itself, it is effective beyond the point of greatest pressure differential while the well is being produced; thus it not only acts as a plug, but also influences the formation of a water cone by retarding water migration in the vicinity of the well, and acts to reduce further coning in the event the cone has already become established.

Tubing Pulled as First Step

The first step in the procedure is to pull the tubing from the well and rerun with a short seating nipple made up in the bottom collar. Fluid in the hole is replaced with fresh water to obtain a balanced condition of the fluid in the tubing and between casing and tubing, and to form a fresh-water emulsion



After water columns have been stabilized in tubing and casing, acid is directed against lime in water zone. Region of action is controlled by holding casing fluid level constant. (Continued).

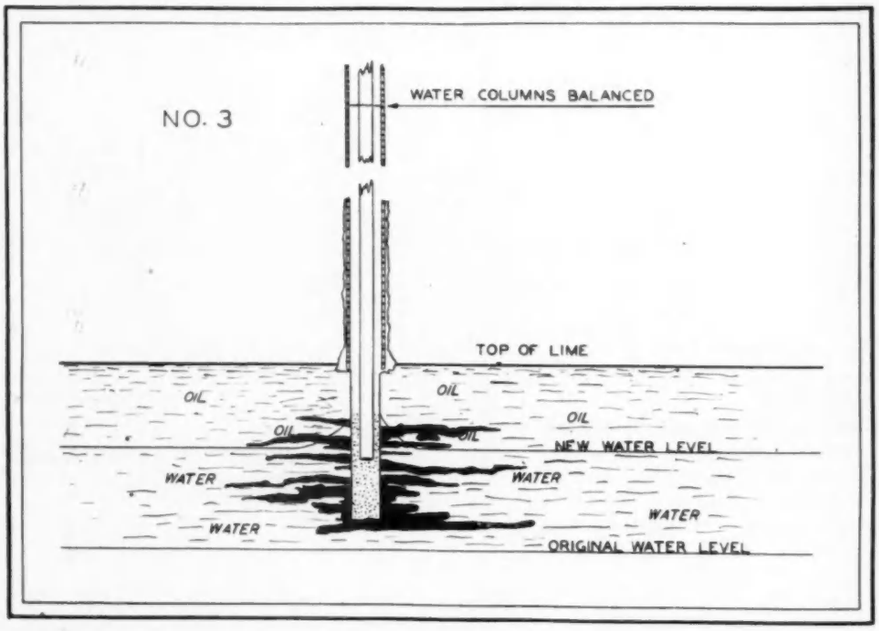


Action of acid is to increase permeability of lime, to open pores, to widen and expand crevices through which water is migrating to well.

with any crude remaining in the hole or that may enter the hole during the operation. The hole is assumed to be clean, but may be washed by back-flowing a few barrels up the tubing. Hole is then measured to check footages of past record, and to serve as a guide in the operation.

The next step is the acid treatment of the water zone. From 500 to 1000 gallons of 15 percent acid are used. In addition to being directed toward the water section, the treatment also is localized to this section by the controlled static fluid column, with the result that the action is confined almost entirely to the water zone. The treatment, directed through nozzles, opens up the water bearing crevices and channels of the lime, increases porosity and permeability.

After a satisfactory volume of acid has been injected into the water portion of the hole, cement is introduced into the same section. Cement is lowered through the tubing and displaced out into the formation. This displacement is controlled through continual balancing of the fluid column. After a stage of equilibrium between water in the tubing and casing is obtained, with the level being determined by the hydrostatic pressure of the formation, a state of stability of fluid level is held constant. During acid treatment and cement injection, the top of the fluid in the casing is checked continually by wave impulse methods to allow control of the injection of cement or acid. If the water column starts to rise, injection is slowed, for it is then evident that the treatment is acting upon the oil section as well as the water zone. In the introduction of cement, a rise in the fluid level is warning that the cement is not entering the water section as fast as it is being displaced through the tubing, so again the operation is slowed to regain stability. If the water in the casing lowers during either operation, the pay is taking the acid or cement at a rate more rapid than it is being displaced from the tubing, so the action is speeded up.



Cement slurry is introduced into treated section determined as being water source of well. (Continued.)

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In casing just as in drill pipe, tubing and line pipe, the added service you get from Youngstown makes it the cheapest in the end.

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On this huge Youngstown machine, round billets for seamless tubular goods are being "peeled" to insure that the finished pipe is free of surface defects.

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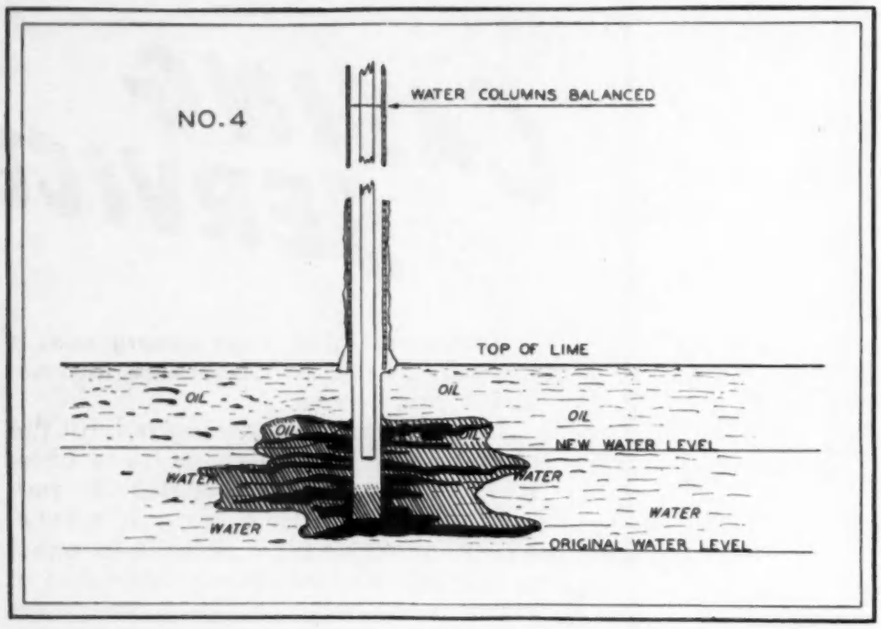
Ask your distributor for Youngstown Pipe and Tubular Products - Sheets - Plates - Conduit - Bars - Tin Plate - Rods - Wire - Nails - Tie Plates and Spikes



Blocking action is obtained by reducing permeability of water section to near zero. Orifices, crevices, connected pore space is reduced to a minimum, water travel is reduced through lack of open passages in formation.

Cement Top Checked

After the required volume of cement has been forced into the water section of the formation, tubing is raised about 200 feet and a line is run to check the top of the cement. After allowing 24 hours to set, the well is recompleted to a predetermined point by treating off what cement may have contacted or formed on the face of the oil zones. Rods are run and the well tested. If results fail to show the desired ratio change, a higher portion of the pay zone may be treated and new cement run as a higher block. Past work has shown about 25 sacks of cement are required for the usual western Kansas job, but this varies with the amount of acid used and the space opened to cement intrusion by the action of the acid.

An accurate log of the producing formation is helpful in locating the oil zones, water zone, and in determining the amount of cement plug to be left in the hole. In respect to probabilities of success, wells with the greatest penetration and with pay zones separated by hard strata of limestone which has no porosity, offer the best chances for a successful job. Experience to date has been highly varied.

Provided further development proves the method as successful as is indicated, completions in western Kansas may be made after drilling entirely through both the oil and water zones of the lime. Cores could be taken of the formation and the sections accurately logged in this way. Knowing the exact top of the water, the operator could treat and cement off that portion of the lime, and as much further up the hole as he would consider necessary to block off water. At later dates, when the water level had risen normally to a higher level through routine production, it might be desirable to sucessively acid treat and cement off the rise until normal depletion of the reserve.

Experience to date has been promising. The least that can be said is that in no case has a detrimental effect been the result. There is no basis for considering the method the answer to all bottom-hole water problems in lime formations. Past work has proven the method applicable when certain conditions are present, and when the procedure can be logically followed as described.

Records of some of the wells blocked are interesting. In Big Creek, a well into Gorham sand made no water on completion in 1935. However, water gradually began showing until it reached a volume of 1000 barrels daily. As lime was immediately underlying the sand, it was decided that the water was coming from the lime rather than the sand strata. An additional five feet of hole was made, into the lime, which confirmed the water source. A localized treatment with 1000 gallons of acid was made of the lime (80 percent soluble), and 10 sacks of cement were introduced. Water decreased 80 percent and oil increased 500 percent. Subsequent production at too high a rate formed a second cone.

Waite 1, Hittle pool, Cowley County, went largely to water on the pump. After cement blocking, a 1/64-inch tubing choke was run in and the well readily made its 75-barrel allowable on flow. This job is admittedly unusually successful. Now 20 months old, it still allows daily production to be flowed.

Another Arbuckle lime well in Rice County had a packer in open hole 12 feet off bottom. Producing 15 to 20 barrels of oil and 1000 barrels of water, the well was treated under the packer and a cement block established. Later tests showed the well capable of making 65 barrels of oil and no water.

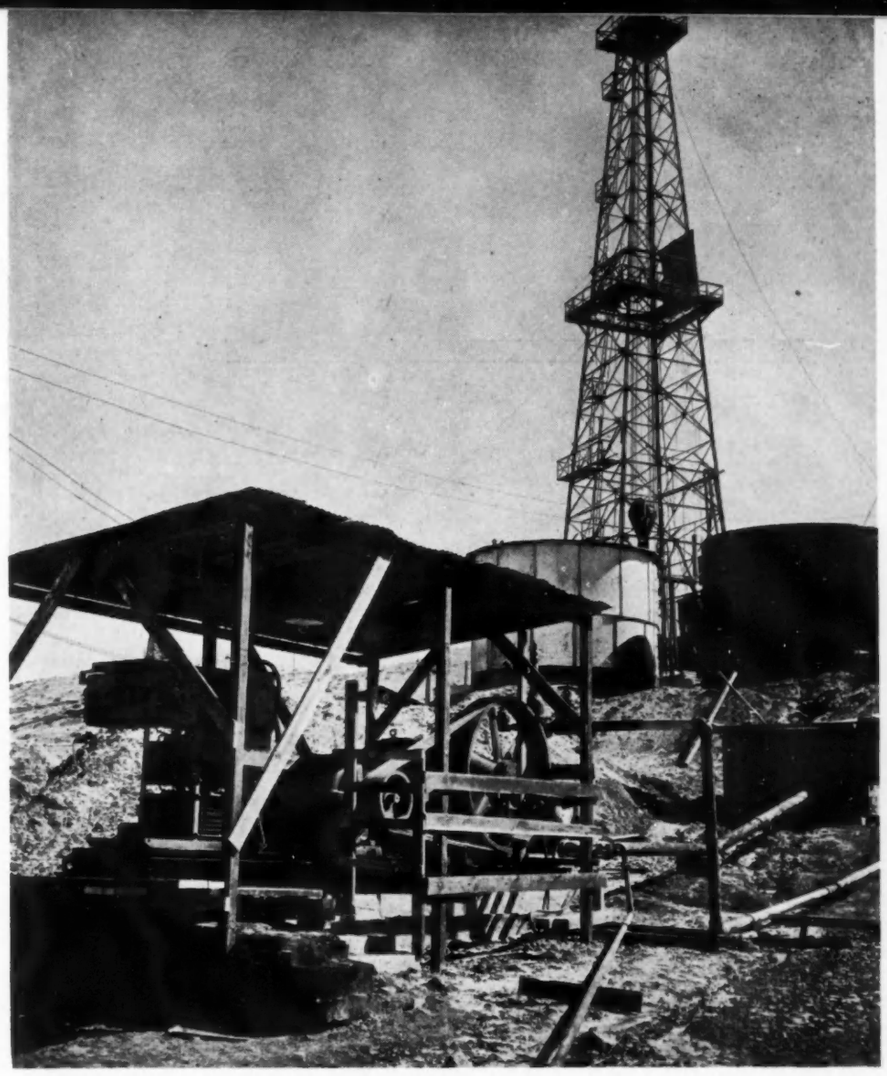
Scattered Applications

Field	Before Water	Before Oil	After Water	After Oil
Iuka	1000	10	80	6
Trapp	1000	0	15	0
Keesling	400	10	15	0
Weathered	1000	2	30	300

While there are questions yet to be answered as to the best means of combatting formation water, this procedure has given desirable results in a number of applications. It is inexpensive, requires a minimum of equipment, is rapid and may be carefully controlled.

Following such a job, it is not desirable to pump fluid entirely down, for in so doing excessive pressure differentials might result in renewing the water cone at a higher level.

While thus far the procedure has been used solely to overcome an obstacle generated through normal production, it could as well be applied as a completion agent.



Mud mixing equipment hookup, consisting of electric motor, controller grid installation to dissipate surplus electric current flowing to motor when power not in use, and mud pump supplying mud to mixing gun in mud conditioning tank.

All photos by Petroleum Picture Service, Los Angeles

Breaks Two Drilling Records

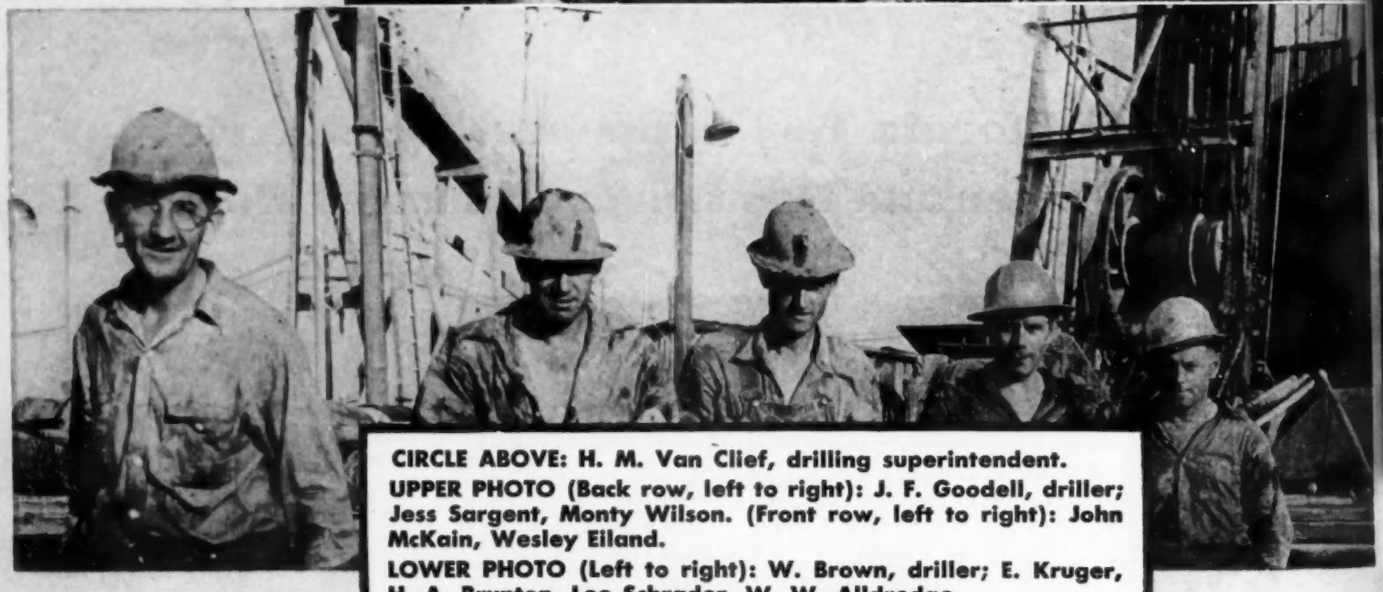
California Test Is Deepest By Electric Power and Has Longest Uncased Hole

TWO records without parallel in the drilling of deep wells were achieved by Honolulu Oil Corporation in the drilling of its No. 25-P deep test to 14,622 feet in the old Buena Vista oil field in Kern County, California.

First—From 3101 feet to bottom, a distance of 11,521 feet, drill-

General view of derrick floor at Honolulu Oil Corporation's No. 25-P, which reached the second deepest depth in history. The rotary table was driven by a separate direct-drive 125-horsepower electric motor, fully protected from mud by a metal guard and cooled by a forced-draft ventilating system set up under the derrick floor. Gas pressure has sprayed drilling mud over equipment.

14,622 FEET



CIRCLE ABOVE: H. M. Van Clief, drilling superintendent.

UPPER PHOTO (Back row, left to right): J. F. Goodell, driller; Jess Sargent, Monty Wilson. (Front row, left to right): John McKain, Wesley Eiland.

LOWER PHOTO (Left to right): W. Brown, driller; E. Kruger, H. A. Brunton, Lee Schrader, W. W. Alldredge.

FOR THE VARIOUS FORMATIONS . . . .

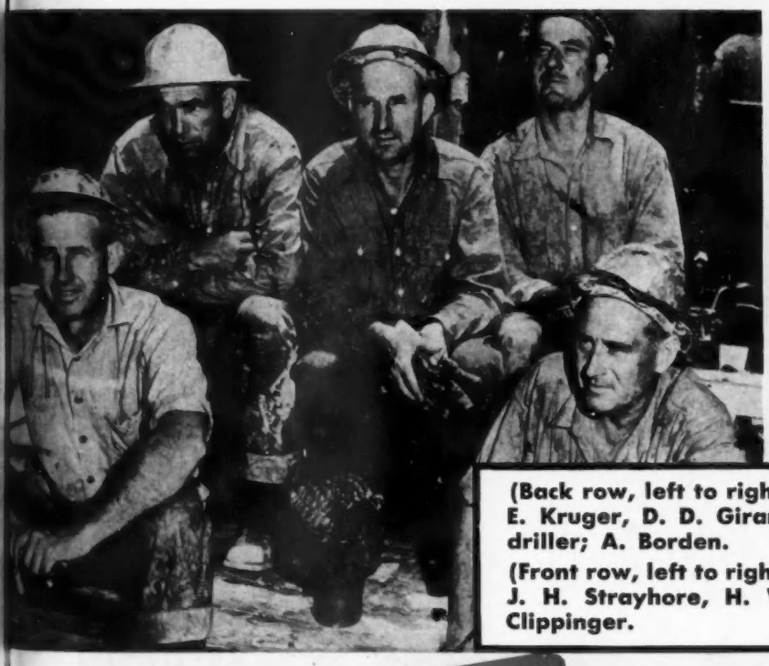
— ANOTHER NOTABLE DRILLING ACHIEVEMENT

Honolulu Oil Corporation's Well No. 25-P, Kern County, California, which attained a depth of 14,622' is an achievement worthy of high acclaim . . . a tribute to the knowledge, resourcefulness and skill, not only of the officials of the Company, but of every man on the rig.

We are justly proud that Hughes Tricone Rock Bits played an important role in the drilling of this deep test.

THE FOLLOWING ROCK BITS WERE USED:

Size Bits	*Hughes Tricones*	*Other Makes*
12¼".....	9	6
11".....	1	0
10⅝".....	55	2
8⅝".....	58	15
8½".....	26	0
7⅝".....	1	0
Totals	**150**	**23**
Percentage	**86.7%**	**13.3%**



(Back row, left to right): E. Kruger, D. D. Girard, driller; A. Borden.
(Front row, left to right): J. H. Strayhore, H. W. Clippinger.

DEEP OR SHALLOW—
THERE'S A HUGHES "TAILOR-MADE" ROCK BIT

HUGHES TOOL CO.
HOUSTON, TEXAS

Two 125-horsepower electric motors synchronized through a reduction gear furnished power to the drawworks.

ing was in open hole. This amount of uncased hole is believed never before to have been equalled, and attests the care and precision of workmanship on the derrick floor, as well as the high degree of expert supervision over a miscellaneous number of items such as drilling fluids, rate of penetration, maximum capacities of equipment employed and a number of other factors.

Second—Except for small standby units, electric power was used in the drilling, making it the deepest well ever drilled with electric power.

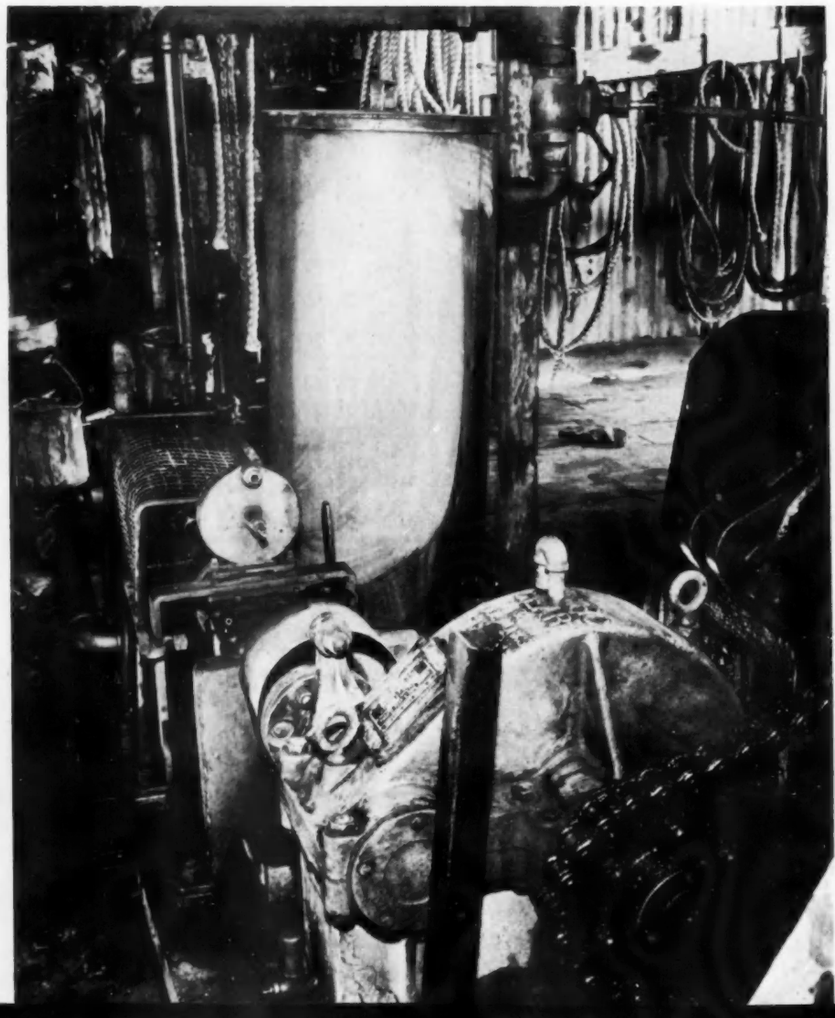
Spudded June 1, 1940, the objective was any productive zone in Lower Miocene. Original calculations were that the equipment installed, a major share of which had seen long service on the company's other drilling jobs, could be relied upon to take the hole to somewhere around 10,000 feet. Finding the Middle Miocene beds much thicker than expected, drilling was continued with the result that the unusual depth record was established.

This automatic hydraulic feed control unit was used to control rate of line feed off drawworks. It is connected by chain to 125-horsepower electric drawworks motor. Photograph shows reservoir and feed line hookup together with sleeve pump operating feed control unit.

At 14,622 feet, 25-P missed by the narrow margin of 382 feet equalling the depth reached by Continental Oil Company in its No. KCL A-2 in the Wasco field in California which holds the world's record for depth at 15,004 feet. While falling short of the record, the Honolulu test did, however, wrestle from Continental the distinction of having drilled the two deepest tests of record by eclipsing by 40 feet the 14,582 feet depth of that company's Proctor 1, wildcat in Washita County, Oklahoma, until now the second deepest well in the world.

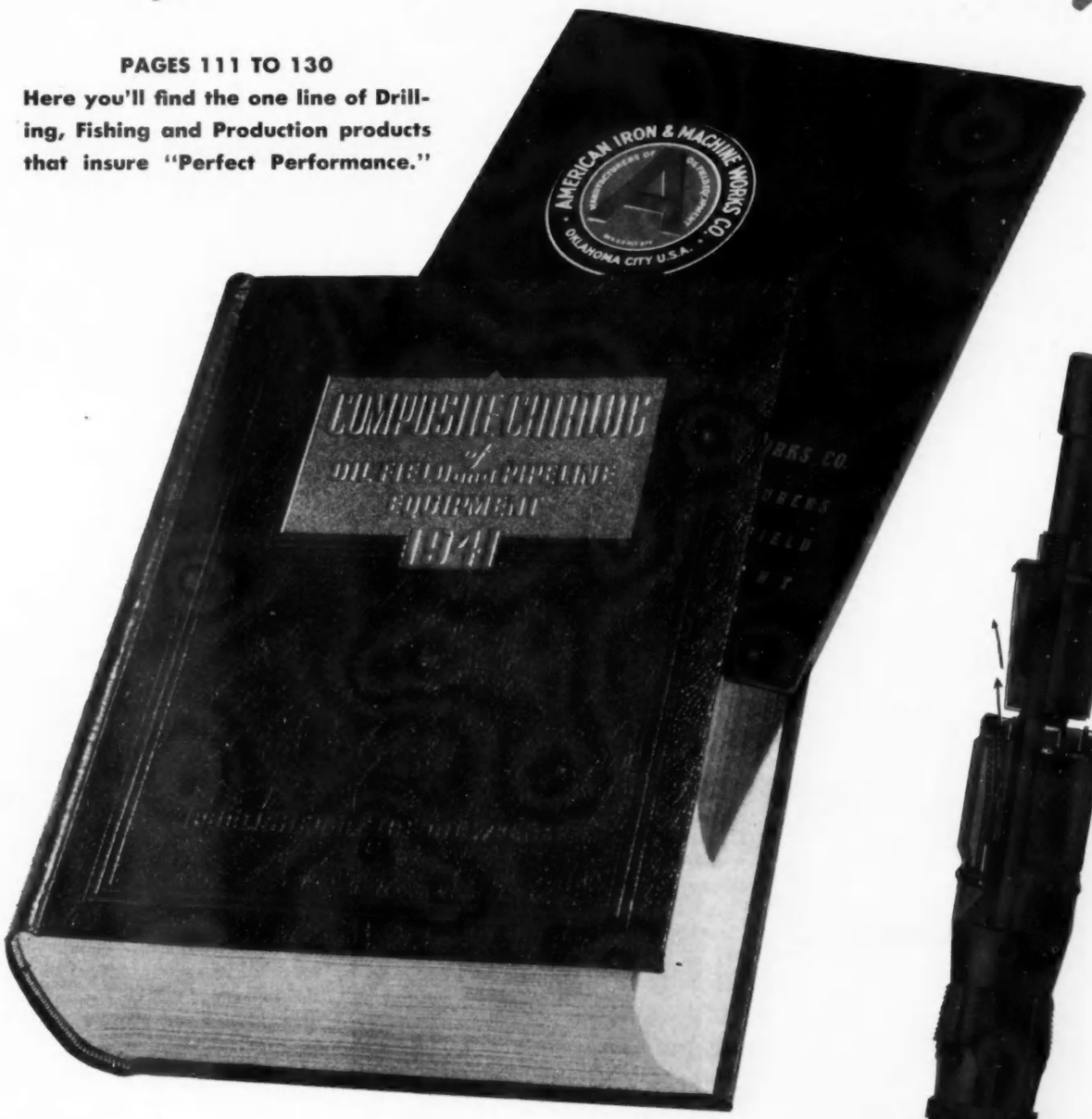
Decision to bottom the well at 14,622 feet was made when a fishing job developed as a result of intrusion of salt water which was very pronounced from 14,600 feet to bottom. Eight joints of 30-foot drill pipe, six 40-foot drill collars, two reamers and a junk basket were lost on bottom due to the failure of circulation occasioned by the salt water intrusion. While the crew were confident the equipment could be recovered and the hole taken to at least 16,000 feet with the machinery in service, possibility that opportunity might be lost for obtaining a test of showings above 11,050 feet contributed to the decision to leave the fish in the hole and proceed with examination of upper zones.

Inasmuch as California operators have provided a primary market for unusually heavy drilling equipment developed over the past few years, it is of interest to note that the Honolulu test was not



LOOK FOR *OUR PRODUCTS* IN THE *Composite Catalog*

PAGES 111 TO 130
Here you'll find the one line of Drilling, Fishing and Production products that insure "Perfect Performance."



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HOPPER MACHINE WORKS, INC., Bakersfield

Don't overlook the American Iron Control Head Tubing Packer, described in detail on page 123 of the Composite Catalog.

drilled with the heaviest equipment available and that most of it already had seen years of service. Equipment now in service in the Rio Bravo field, for example, is believed capable of reaching 20,000 feet. So far, however, these heavy rigs have been used in drilling on routine locations in the deep San Joaquin Valley fields.

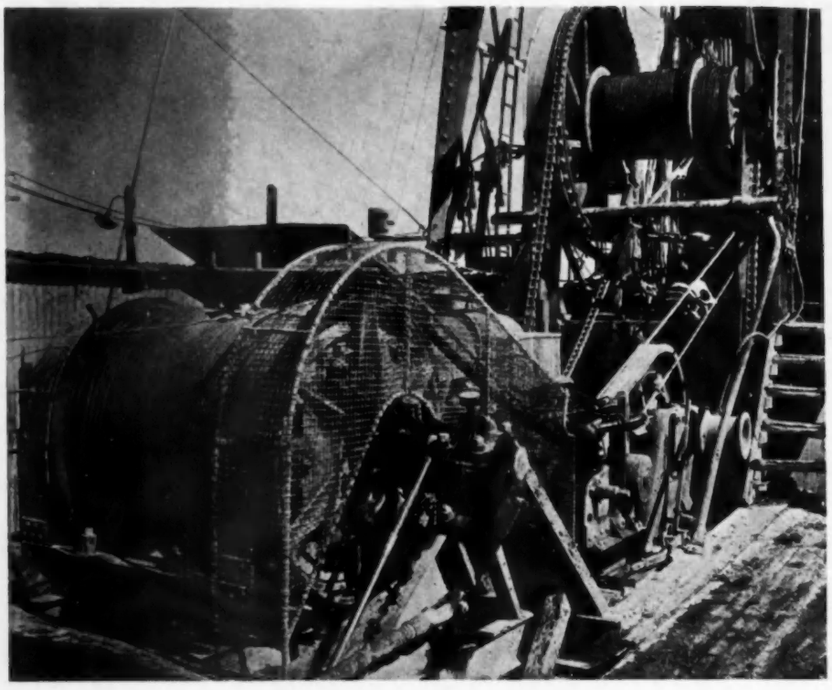
While considerable study and interpretation will be required before conclusions can be drawn, undoubtedly the complete record of drilling operations on the Honolulu well, when available, will contribute extensively to the industry's knowledge of deep drilling procedure. The well has provided something of a testing laboratory for such equipment items as rock bits, wire lines, drill pipe stabilizers, and other pieces of equipment.

A minimum amount of fishing, in the opinion of the operator, resulted from carefully limiting the amount of drilling undertaken with bits of various sizes. Starting with a 12¼-inch rock bit at 1400 feet the hole was taken to 5600 feet. From 5600 to 12,089 feet, 10⅝-inch bits were used and from 12,089 to bottom 8½-inch bits. A recorder was attached to the drill table to indicate the number of revolutions made by each rock bit. While 12¼-inch bits were in use, it was found that each was capable of making approximately 200,000 revolutions before needing replacement. When the bit size was reduced to 10⅝ inches, about 140,000 revolutions could be clocked up before replacing, and when the 8½-inch bit was brought into service the number of revolutions before changing bit was lowered again to approximately 85,000.

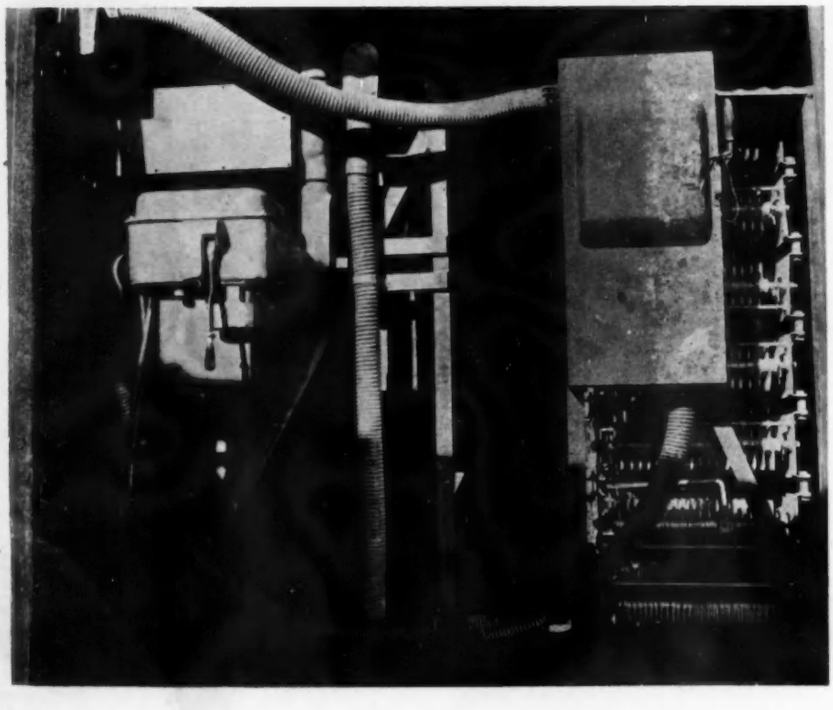
A total of 178 bits, consisting of 173 rock bits and 5 drag bits, were used in drilling the well, together with 71 core heads and 25 junk baskets. From surface to 11,493 feet required 65 bits; from 11,493 to 13,437 a total of 69 bits; and from 13,437 to bottom, 44 bits were used. Through maintenance of accurate check on the number of revolutions made by each bit and pulling out for replacement promptly upon completion of the indicated maximum run for the size bit in use, it was estimated that much lost time was avoided which would have otherwise been required for fishing.

Despite unusually hard formations drilled, average hole made with each bit ran from 25 to 30 feet below 8000 feet. Because of the hardness of the formations this was considered good performance. In the interval from 12,300 to 13,418 feet exceptionally hard digging was encountered and the average amount of hole made by each bit dropped to about 18 feet.

For the most part surface equip-

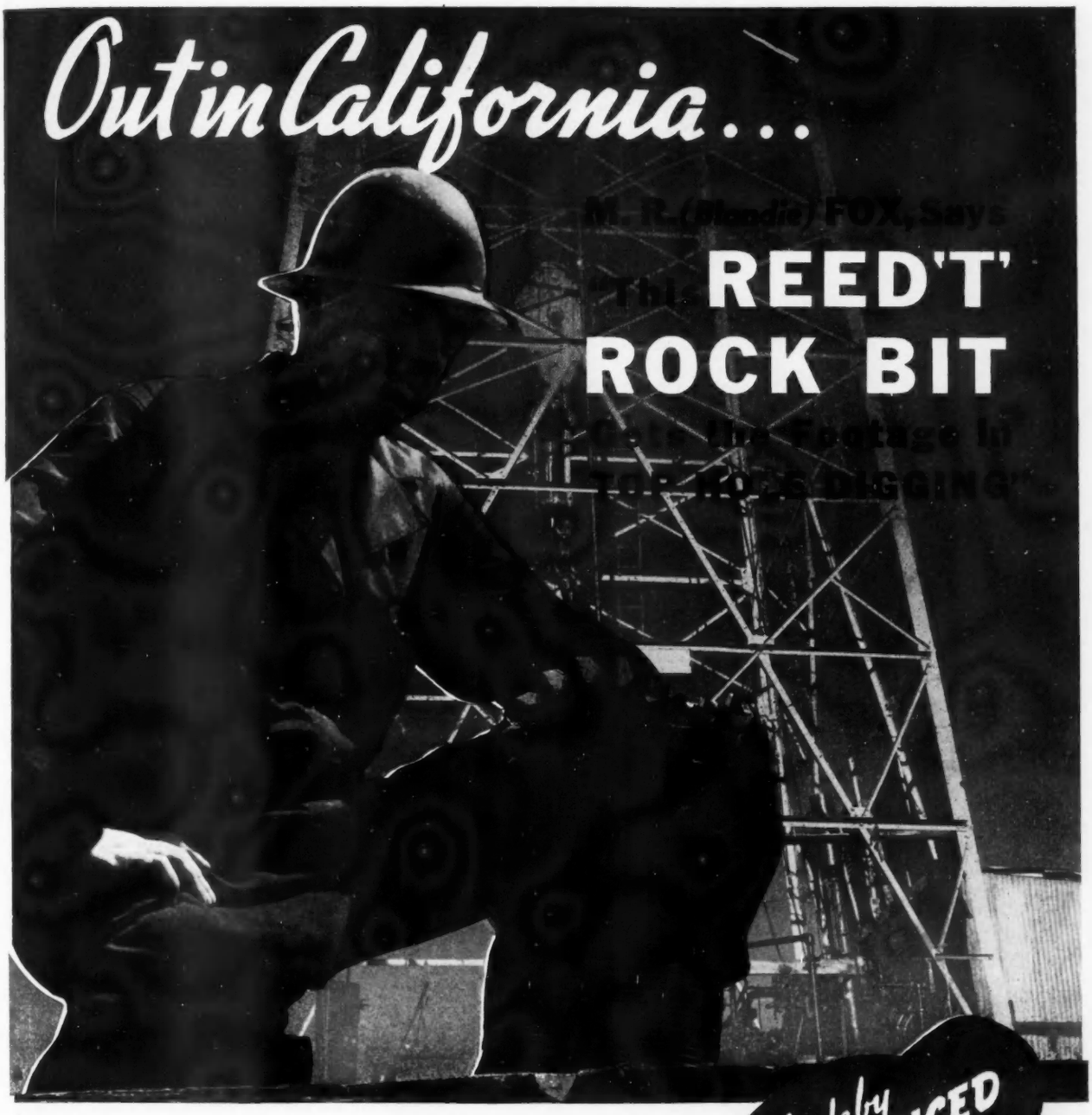


Catwheel and sand reel was powered with 125-horsepower gasoline engine that was also used as standby hoisting unit in event of electric power failure.



Layout of power line switch boxes, showing heavy insulation to prevent ignition of free gas. This unit supplied power for two 125-horsepower drawworks motors.

Out in California...



The Reed "T" Rock Bit has deep, widely spaced teeth which provide maximum action on bottom and assure effective cleaning action, reducing the possibility of the bit "balling up" in the sticky formations.

This bit is especially noted for straight hole digging in the soft to medium and sticky shales with intermittant shells and sand.

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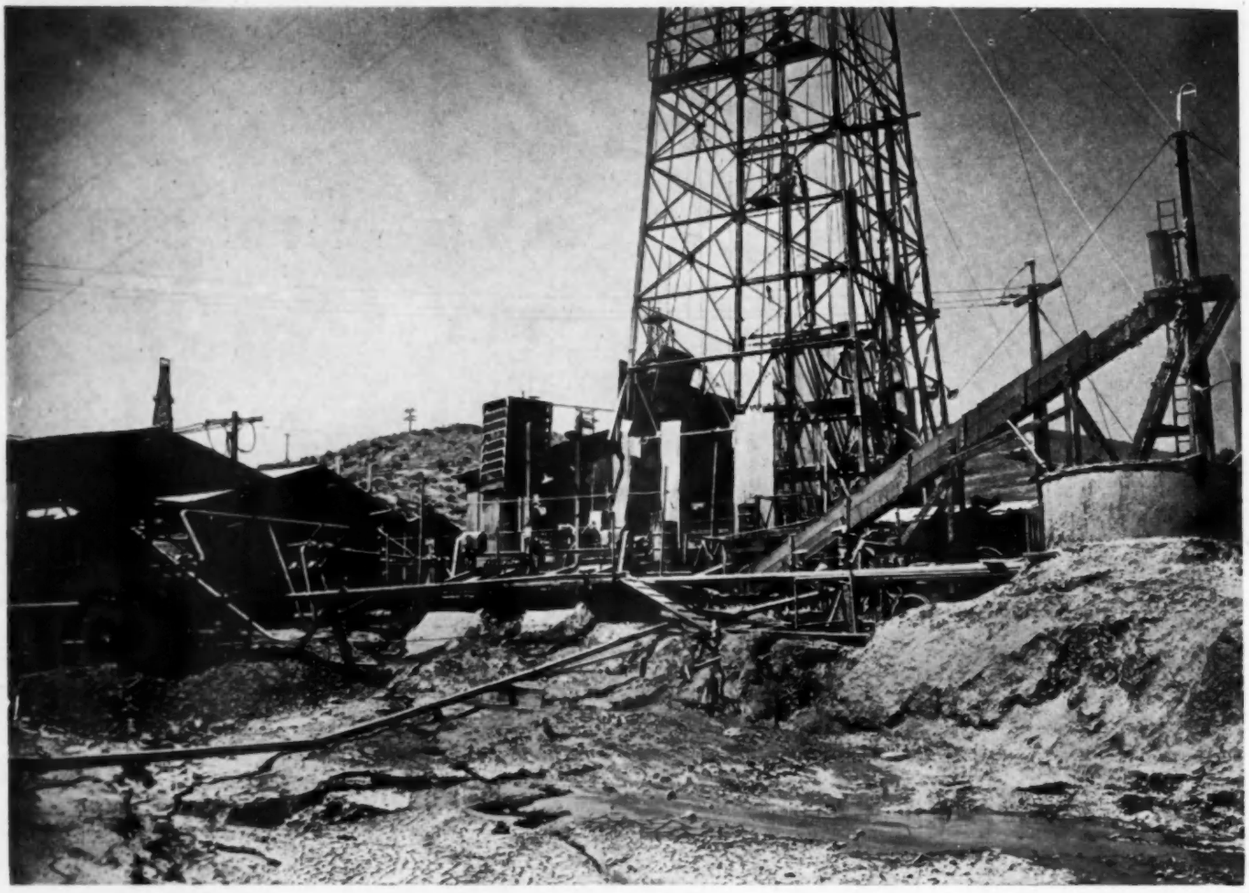

Mud after passing over the vibrating screens into tank at right was pumped to top of a long sloping trough down which it passed over a series of baffle boards in a churning process which assured removal of accumulated gas.

ment used on the well was of regular size and commonly employed in drilling to average depths in California fields. The drawworks was originally a post type, 8-speed, 3-shaft unit and was brought out about 10 years ago for heavy-duty drilling. Five years ago it was unitized and brought as nearly up-to-date as possible for a drawworks of this type. It has 54-inch rims and corresponding other dimensions which are generally determined by the size of the rims. A robot driller, or automatic hydraulic feed control unit was used on one of the drawworks motors which was fashioned by the company's engineers. Power for the drawworks was supplied by two 125-horsepower alternating current electric motors synchronized through a reduction gear. Standby hoisting power was provided by a 125 horsepower internal combustion engine connected by chain drive to a calf wheel on which the dead line was spooled. The same unit was used to power the reel for wire-line coring equipment.

A separate direct-drive 125-horsepower electric motor was used to power the rotary table,

Vibrating screen installation at Honolulu Oil Corporation's No. 25-P. Two 1000-barrel storage tanks and a small mixing tank, each fitted with agitation guns, were other equipment handling mud.

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fully protected from mud and falling objects by a metal guard and cooled by a forced-draft ventilating system set up under the derrick floor.

In drilling to approximately 14,000 feet, two mud pumps were used, one 7¾ by 16 inches and one 7¾ inches by 14 inches, operating in parallel and driven by two 125-horsepower motors. At about 14,000 feet, a 7¾- by 20-inch pump was installed, using a 5½-inch liner and powered with two 125-horsepower motors operating in unison. Two small pumps were used for surface handling of mud. One was electrically driven and used to pump drilling mud that passed through the vibrating screens into a shallow tank to the top of a long, sloping trough down which it passed over a series of baffle boards in a churning process which removed accumulated gas. A gasoline-driven pump was used to operate mud-mixing guns.

Two 1000-barrel mud-storage tanks were used as well as a small mixing tank, each fitted with mud guns for agitation. A mud testing station was maintained at an open trough carrying the mud from the well. On bottom 105-pound mud was used. With over 14,600-foot head, indicated pressure on bottom was 10,000 pounds per square inch. Upwards of 30,000 sacks of weight material were used in the drilling fluid.

The derrick was 136 feet with an 8-foot sub-structure and 26-foot base. Tubular reinforcing gave it a weight capacity of 490,000 pounds. It was originally equipped with a light traveling block but later a 12,000-pound block was installed with 10 reeves of 1⅛-inch wire line over the crown block.

Regular utility electric power has been used exclusively by the operator at Buena Vista for the past several years. A portable transformer bank reduced power from the power line from 11,000 volts to 440 volts. Automatic electric control units were used to dissipate surplus power flowing to the electric motors when not being consumed, and heat thus generated was used during cold weather to heat the drilling station through installation of pipe conductors and fan.

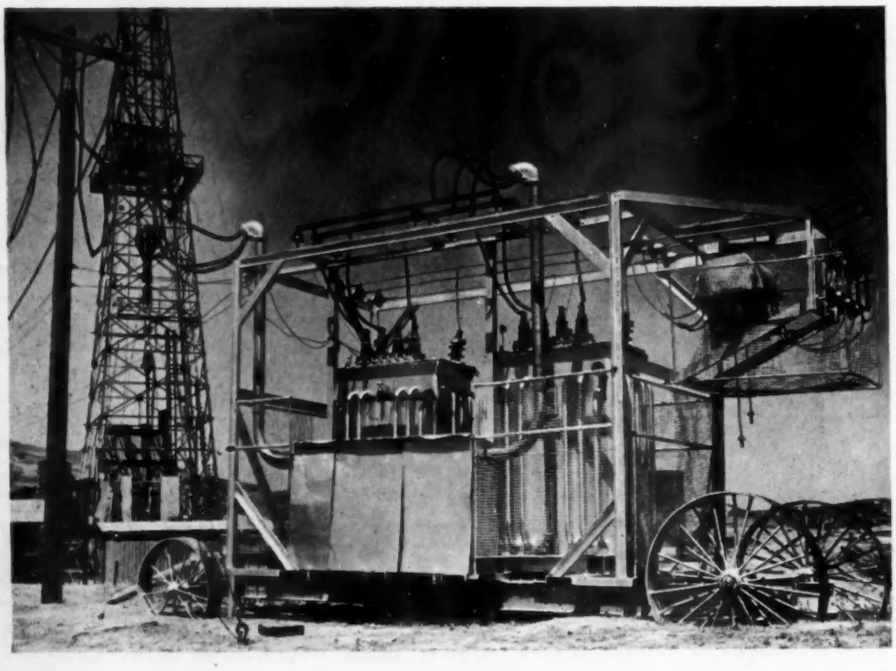
Unusually heavy drill collar assembly was employed to reduce whipping action. From 12,089 feet to bottom six 6¼-inch o.d. 40-foot drill collars were used which weighed 95 pounds per foot, or a total of 23,800 pounds. Two reamers were used in the assembly, one two joints above the bit and the other four joints above the bit.

Rotary speed ranged from 60 to 250 revolutions per minute. Drill pipe stabilizers were used throughout the length of open hole, allocated one to each joint of pipe. Two-step square-thread type drill pipe was used, employing a double-pin coupling providing for replacement by an oversized coupling when threads became worn.

Discovery of a number of new fields on the floor of the San Joaquin Valley in recent years directed attention to the possibility of finding similar deep sands underlying the older shallow fields along the west side of the valley. Drilling of the Honolulu deep test was no doubt influenced in large measure by a desire on the part of the operator to determine whether the beds found productive on the valley floor might also be present in the Buena Vista area.

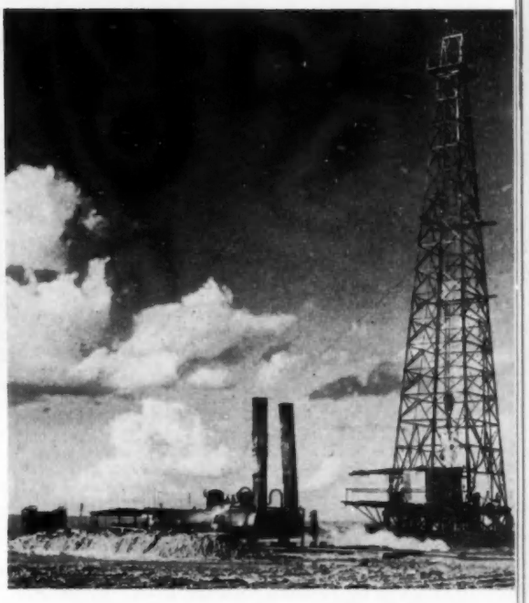
On the basis of cores taken from 25-P, and gas showings on the ditch, prospects are considered fair for completion of the well as a commercial producer. First tests for production possibilities are to be made on the interval from 8600 feet to the top of a plug which is to be placed at 11,050 feet. A blank section of 6⅝-inch liner is to be set from about 8100 to 8600 feet. If the lower measure fails to show any possibilities, the interval from the base of the 5⅝-inch water string now set at 5750 feet to the top of the blank liner at 8100 feet will be examined. Other showings were noted which are now blanked off behind the casing. Should both of the tests to be conducted below the water string fail, the upper showings will be tested by stages through perforations.

A rough estimate would indicate that to date approximately $350,000 has been spent in drilling this test and by the time final tests are completed a further investment of around $50,000 will probably be required. A major item of expense has been materials for drilling fluid.



Electric transformer bank, which reduced 11,000 volt power from utility line to 440 volts used on electric equipment at the well.

Most contractors in the field are using equipment capable of drilling to 7000 feet, the drilling operations being speeded up considerably by the use of such oversize equipment. Wherever possible, equipment such as power units, mud pumps, racks, etc., are unitized for easy transportation. Steam, butane-powered multi-cylinder engines, diesel and diesel-electric power rigs are in use.



Slaughter

West Texas Area Fast Approaching Record In Acreage and Activity

By GILBERT M. WILSON, Staff Writer

WITH between 400 and 500 wells completed, and 1000 to 1500 proven locations (at 35.4 acres per well) yet to drill, the Slaughter field is apparently on its way toward becoming the second largest proven producing area in the United States—second only to the 136,000-acre East Texas field. The present outline of the field, which is as yet not defined since very few dry holes have been drilled around the outer edges, includes an area of nearly 55,000 acres, with prospects of that figure being ultimately raised to 75,000 or higher as new extensions and their intervening areas are explored.

While spectacular well potentials are not destined to become a keynote in the interesting picture of Slaughter field development, indications point to the fact that under the present curtailed rates of production, the field should be long-lived, compared to conditions found in many other lime-producing areas. The discovery well, completed in 1936, has since produced 84,000 barrels of oil, with very little decline in bottom-hole pressure so far apparent.

Completion rates are increasing rapidly, with over 60 wells being finished during June. Currently, about 100 rigs are either drilling, testing the pay, or rigging up, making Slaughter one of the most active spots in the nation. It is due to maintain this high level of activity because of the many proven undrilled locations and prospects for expansion.

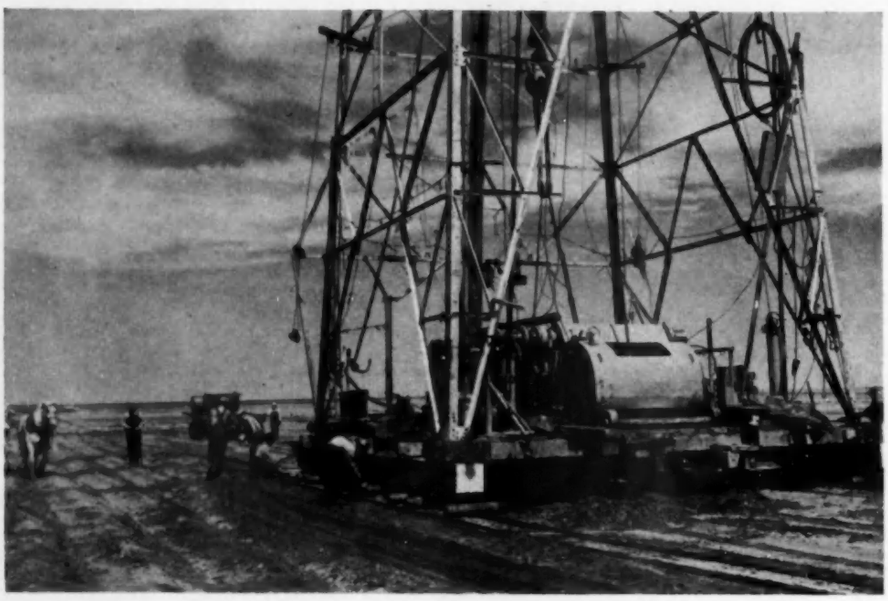
MAPS

In addition to the map on page 37 which shows location of the Slaughter field with reference to other fields in West Texas and New Mexico, a more detailed map of the field is included as an insert with this issue.

The Slaughter field embraces the southeast corner of Cochran, the southwest portion of Hockley, and extends south for a narrow belt into north central Terry County, in Texas; and is the most northern producing area in the West Texas-New Mexico Permian Basin belt.

Center of the present activity is 35 to 40 miles north and east of the nearest major field, Wasson, in Yoakum County. The nearest city is Lubbock, 45 miles east and a little north of the field. The railroad terminal nearest the field is at Levelland, 12 miles northeast of the area.

Topography of the area is generally plain, although in places it is very gently rolling. Surface ele-



The level terrain of the region makes it relatively easy to skid derricks between locations. The winch on an anchored service truck usually does the job, teams being used to drag the plank run-ways from the rear to the front of the derrick rollers. By moving the draw works and engines on to the derrick floor, they are conveniently hauled, and at the same time they provide weight to lower the center of gravity of the derrick while it is being skidded to location.

vations in the Slaughter field average between 3500 and 3600 feet above sea level.

Size

The proven area of the field embraces nearly 55,000 acres, with indications pointing to a possible ultimate size of 75,000 acres. Surprisingly few dry holes have been drilled outside the field, and no failures within the producing area, although some relatively poor wells have been brought in in several local areas. These latter have been due more to lack of normal porosity rather than any variation of structure. Extensions to the field are most likely to occur north, northwest and southwest, based on the present status of wildcat activity in these outlying sectors.

The major producing area extends due east-west for approximately 14 miles without a break in production or definitely proven acreage, and has a maximum north-south depth of 9 miles.

Two important areas, the Dean area, 3½ miles northwest of the western end of the field, and the Rhodes area, 5 miles south of the Dean, have indications of becoming incorporated eventually in the Slaughter field. Greatest expansion of the field, however, probably will occur along the north flank of the structure, where good wells are being completed. Prolific wells are being obtained in that narrow strip of drilling activity that extends down into Terry County, so it is likely that an important expansion is due to be seen in that sector. Without doubt further prospecting in other outlying areas will bring to light other worthwhile extensions to the field.

Should further extensions continue to develop, and the area between the Slaughter field proper and the Dean-Rhodes outposts be definitely connected, this field will easily exceed in area the extent of the Wasson field of 58,000 acres, the second largest continuous stretch of proven area in Texas. The Wasson field is exceeded in size only by the East Texas field, which has an area of 136,000 acres.

Discovery and History

The present extent of the Slaughter field was originally thought to be two separate areas or fields, the Duggan area in the northwest end, and the Slaughter area in the southeast end. Subsequent drilling that followed the discovery of these two sectors proved them to be a part of the same structure, and were officially merged as the Slaughter field on December 1, 1940.

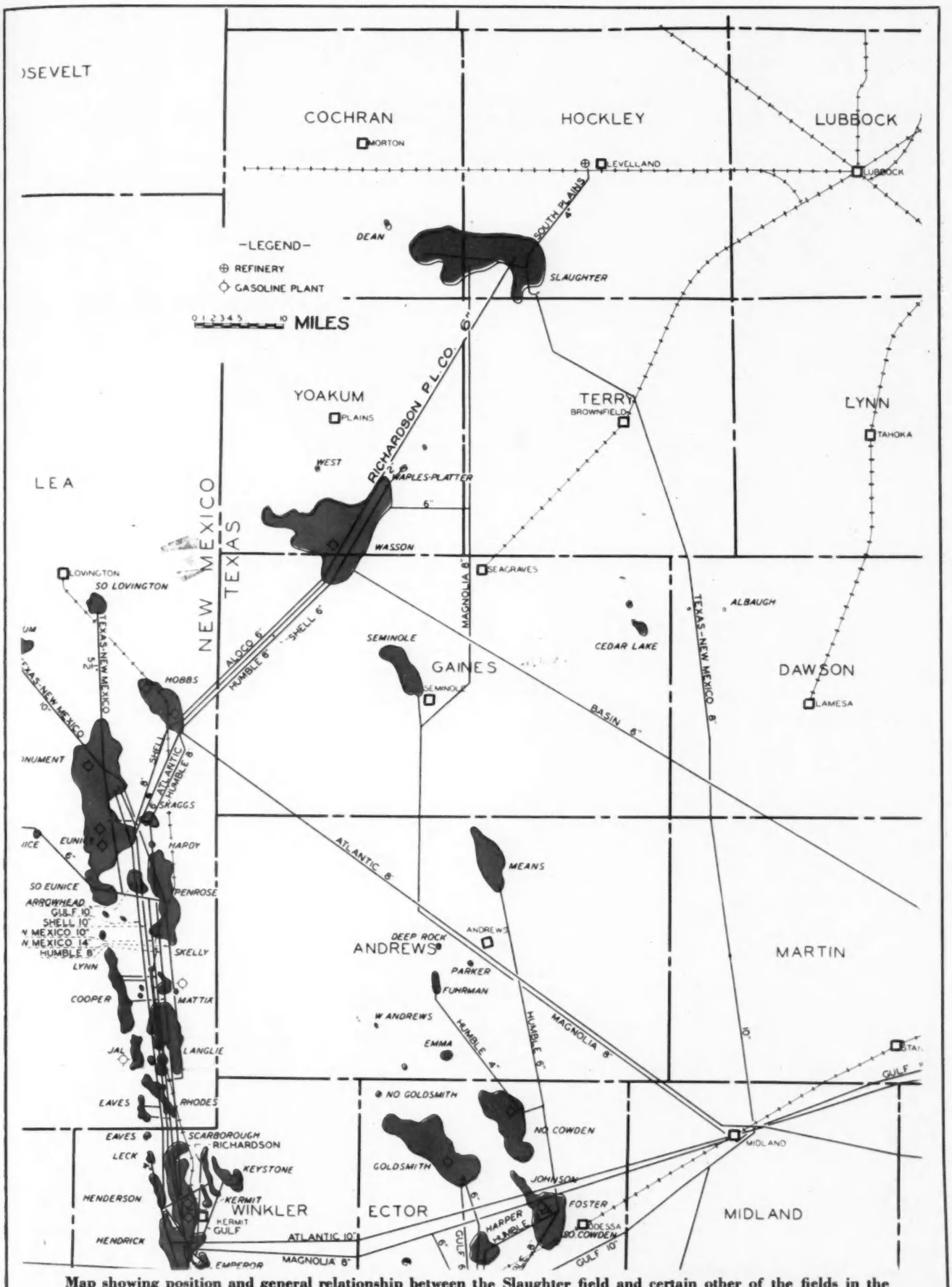
The Duggan area was discovered by Cascade Oil Company (C. J. Davidson) and Honolulu Oil Company on the completion of Duggan 1-A, October 22, 1936, for 115 barrels per day. Following a nitro shot and after applying acid, the potential was raised to 396 barrels, flowing, from an interval between 5018 and 5068 feet. This well is located near the center of Labor 13, League 55, OCSL Survey, Cochran County. Since the discovery, the major portion of League 55, and the north half of League 54 have been unitized, and placed under operating control of Devonian Oil Company.

The Slaughter area came definitely into the oil picture with completion of The Texas Company's Bob Slaughter 1, located in the southwest corner of Labor 83, League 38, in Hockley County, 12 miles east and slightly south of the Duggan discovery well. It was completed April 6, 1937, for 333 barrels. Following acid treatment, its potential was raised to 770 barrels daily from the interval between 4980 and 5023 feet. This well is approximately in the center of a 6219-acre unit assembled by The Texas Company.

The discovery well of the Dean area, Wiggins & Hyde's Dean 1, was completed September 8, 1937, for a potential of between 100 and 200 barrels per day. This well is four miles northwest of the Duggan discovery well.

Discovery of the Duggan area was credited largely to considerable work in subsurface geology, and the projection of trends of known producing horizons from the south end of the Permian Basin. The Slaughter discovery was the result of subsurface geology in conjunction with seismograph work.

The discovery of the Duggan area is remarkable in that it was then the most northerly wildcat in West Texas, being 28 miles northeast of the nearest proven production, in the Bennett area of the Wasson field, Yoakum County. Still more remarkable is that its discovery disproved the belief among experts of the region in and prior to 1936, that porosity and permeability conditions of the Per-



Map showing position and general relationship between the Slaughter field and certain other of the fields in the West Texas-New Mexico Permian Basin area. Railroads, pipe lines and the principal cities and towns also are shown.

Approximate Geologic Column Data of Slaughter Field

Depths and thicknesses will vary, depending upon location and surface elevations.

Geologic Age	Generalized Column of Midland Basin	Approximate Depths and Formations in Slaughter Field	
Tertiary	Ogallala	0— 140	Caliche and Sands
Cretaceous	Comanche	140— 500	Shales and Sands
Triassic	Chinle	500—2000	Red Sands and Shales "Red Beds"
	Santa Rosa		
	Tecovas		
Permian	Dewey Lake	2000—2250	Red Silts and Shales
	Rustler	2250—2350	Anhydrite
	Salado	2350—2850	Salt
	Whitehorse	2850—4250	Salt, Red Sands and Shales, and Anhydrite
	San Andres "Big Lime"	4250—4960 ±	Lime—Broken with Anhydrite
		4960—5060 ±	Oil Bearing Granular Lime
	Clear Fork "Wichita"	5060— ?	Lime
	Wolfcamp		

mian formations would not be so favorable for having production possibilities on the northern end of the Basin.

The field got off to a very slow start, due principally to the lack of faith of pipe line companies in the probable ultimate extent of production, and also the poor road conditions that existed in the area.

At present it is one of the most active fields in the United States. Drilling and completion rates are increasing rapidly (see curve), highways and county roads in the vicinity are being improved, and warehousing, supply house, and other facilities are rapidly moving into the area. The town of Sundown in the eastern end of the field is mushrooming rapidly. Many drilling and other contracting companies, as well as a great number of supply houses and tool companies are already located there.

Structure

Conditions favorable to the accumulation of oil here seems to have been governed more by stratigraphic than by structural features. Despite the large area that has been proven to be productive, very little, if any evidence of closure has so far been disclosed. The structure, in general, appears to be monoclinal, dipping from north to south at the rate of approximately 25 feet per mile, or less than 1 degree dip. Some evidence of a nose condition seems to be appearing in the eastern end of the field where the structure dips off to the east at a slightly greater dip. A few isolated closures of about 25 feet have been indicated in several parts of the field, but it is more likely that they represent only local "highs" on the surface of the broad flat structure.

Some geologists believe that there might be a possibility of finding closure at depth, possibly between the northeast and northwest sides, but until deeper exploration is conducted in the field no definite conclusions can be drawn.

Variations in the porosity and permeability of the pay interval appear to govern the accumulation of oil.

General Geological Data

The first 2000 feet penetrated by the drill consists largely of beds of caliche, sand, shales, and a few thin streaks of limestone, and include the Pleistocene, Cretaceous and Triassic ages. The present oil development in the field is chiefly concerned with formations of the Permian age, which may be grouped into two general divisions; namely the upper Red Bed section of sands and shales and salt; and the lower limestone, or "Big Lime" section. The top of this limestone section, and a brown lime stringer 360 feet above it are the most reliable horizon markers for calculating structural control. The pay zone occurs in a porous interval approximately 800 feet below the top of the Big Lime. Total depth of the wells in the field average 5,020 feet.

Producing Formation

The oil occurs in a porous interval of what is known as the "Big Lime" section. The pay interval ranges in thickness from 60 to 120 feet, averaging about 70 to 100 feet through the field, and is composed largely of a granular, finely porous, brown dolomite, having a "sugary" or crystalline texture. Oil has accumulated in the inter-crystalline spaces, as well as in some open holes caused by shell casts in the granular matrix.

Comparatively little information is as yet available regarding the porosity and permeability conditions of the pay zone, except that conditions vary considerably from well to well, and even throughout the interval in the well itself. Relatively poor core recovery, coupled with the fact that conditions in any well or in any part of the field cannot be considered as an example of typical field conditions, make it difficult to state general figures. Porosity may range from 5 percent to as high as 16 percent, with an average being placed at perhaps 12 or 14 percent. Permeability is very low, making it necessary to acidize each well into production. In one area a permeability of a little under 100 millidarcys was considered to be an average for that part of the field.

From the inconclusive data thus far obtained from the comparatively few wells drilled, it appears that the permeability becomes lower out on the northeast edge of the field, the porous lime zone grading into a much more dense anhydrite. To the north it grades into anhydrite and shale, and to the northwest the lime seems to be more broken, although retaining much of its porosity.

In the Dean area, the two wells drilled seem to indicate the same general characteristics of depth and type of pay, except that porosity is considerably lower, resulting in poorer wells. The Rhodes area likewise indicates a tightening up of the pay interval in that vicinity.

Oil Characteristics

Oil in this field averages 32 degrees API gravity. The outstanding characteristic of the crude is its extreme corrosive properties—a factor that will seriously affect the proper choosing of materials

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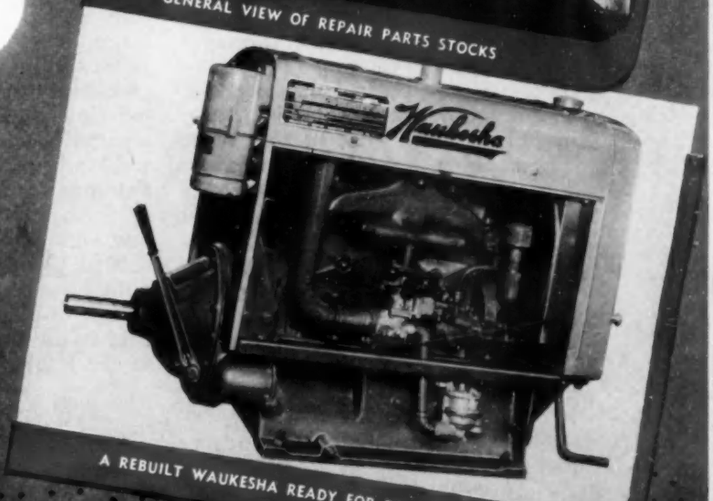
STOCKS — PISTON TUNING MACHINE



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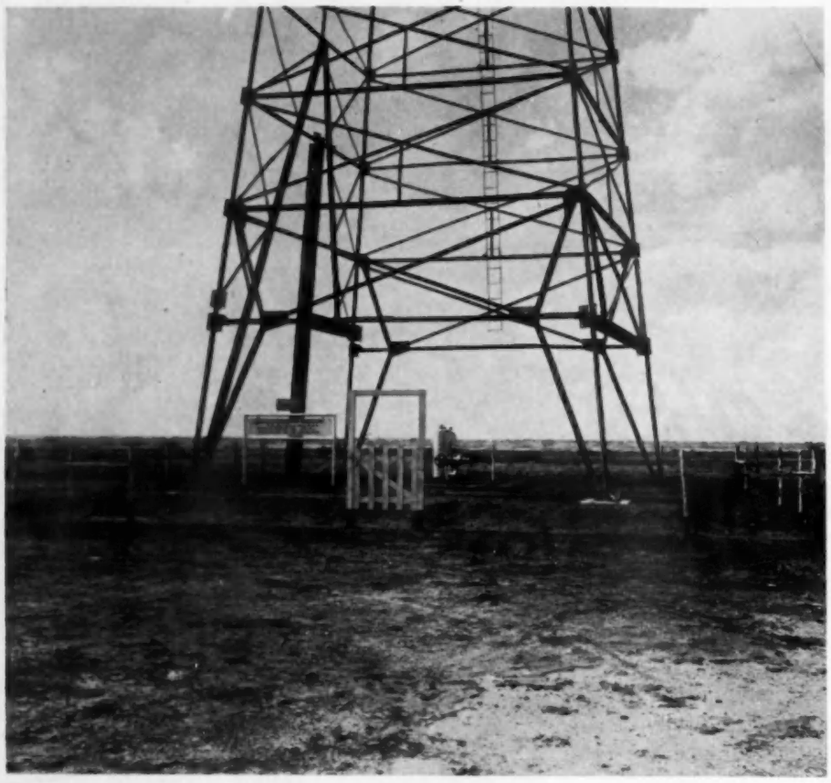

Completed in October, 1936, the discovery well of the original Duggan sector of the Slaughter field, has produced 84,000 barrels of oil. The well is still flowing, and to date has shown very little decline in bottom-hole pressure. The Slaughter sector (later merged with the Duggan) was discovered the following year in a well drilled 12 miles east and south of this well. Conservative estimates of recovery range from 4000 to 9000 barrels per acre in the central portions of the field.

for pipe lines, tankage, and other surface equipment. The salt content alone averages 300 pounds per 1000 barrels of oil. This compares with 200 pounds in the Wasson field to the south, and 20 to 30 pounds that is an approximate average of other Mid-Continent fields. Also unlike other fields, the salt, instead of being in an emulsion or solution, occurs in the crystalline form, making necessary more steps in the refining process. The sulphur content also is a little higher than in most of the West Texas fields, being approximately 2 percent by weight.

A redeeming feature of this crude, however, is the fact that its 34 percent straight-run gasoline (obtained under 400 end point) is particularly susceptible to the tetraethyl lead treatment in the making of higher octane gasolines. This field is one of the five major fields in West Texas whose crudes respond as favorably to this treatment.

Type of Drive

It is not yet definitely known whether the field is a water or gas drive. Some evidence seems to point to perhaps a combination of the two. Present development does not indicate a well-defined gas cap in any portion of the field, although a few wells have been drilled that exhibited gas/oil ratios that seem to indicate the accumulation of some free gas, probably in local "highs" on the top of the flat-dipping structure. Solution gas is largely responsible for what gas is produced in the field. There is a possibility of an active water drive existing along the flanks of the structure, but to date exploratory work around the outer edges of the field has not been extensive enough to form any definite opinion. The few dry holes that have been drilled along the outskirts of the field have found sulphur and salt water, but evidence as to whether it is an active water or just bottom water has been inconclusive.

Water

Bottom water has been encountered at a number of points in the field, and from the available data the oil-water contact appears to have a general dip toward the southeast. Within the productive limits of the Slaughter field, this contact varies from —1384 to —1549, a total variation from northwest to southeast of 165 feet. Water has been encountered at different stratigraphic zones in the lime section in the Slaughter-Dean area, namely stray waters above the pay zone, intermediate water in the pay zone, and strictly bottom water. From the present water data it is impossible to always isolate the bottom water from the other two sources. In rotary drilling it is usually difficult to detect the presence of small stray water intervals until the well is placed on production test, unless special logging services are used.

Wells on the outer edges of the field usually encounter more bottom-water trouble than those in the central areas. For this reason, cable tools are used to drill into the formation so as to be able to more readily locate bottom water and be in a better position to plug back if much water is encountered. Few wells in the Slaughter field are permanently placed on production if the water cut exceeds several percent. The majority of the wells show no water at all on production tests. For this reason the over-all average water cut for the field is below 1 percent.

Bottom water shut-offs are usually effected through the use of cable tools. Plugs or means of actually shutting off the water vary with many of the companies, but the most commonly used method involves the use of lead wool that is pounded into the bottom with an equal volume of ordinary lathe cuttings. The sharp steel fragments are mixed with the lead so that upon tamping down with the tools, the lathe cuttings will cut up the lead wool, and more effectively spread the softer material out into the walls of the hole. This operation is usually followed by placing a lead mandrel plug just above the lead wool. Some operators, in order to make doubly sure of the shut-off, place an oak plug above this. Any water contacting the oak plug will tend to swell it all the tighter in the hole.

Spacing

The proration unit in the Slaughter field as set up by the Texas Railroad Commission is 17.7 acres. At the election of the operator, however, a maximum density of 35.4 acres may be chosen, if the acreage assigned to the well is in a continuous body with length not greater than twice its average

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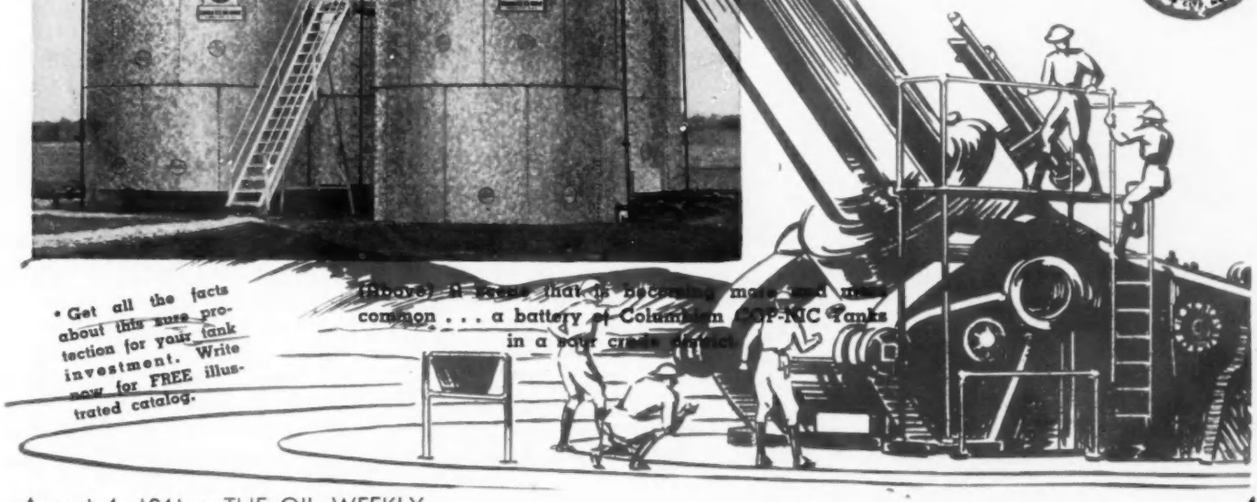

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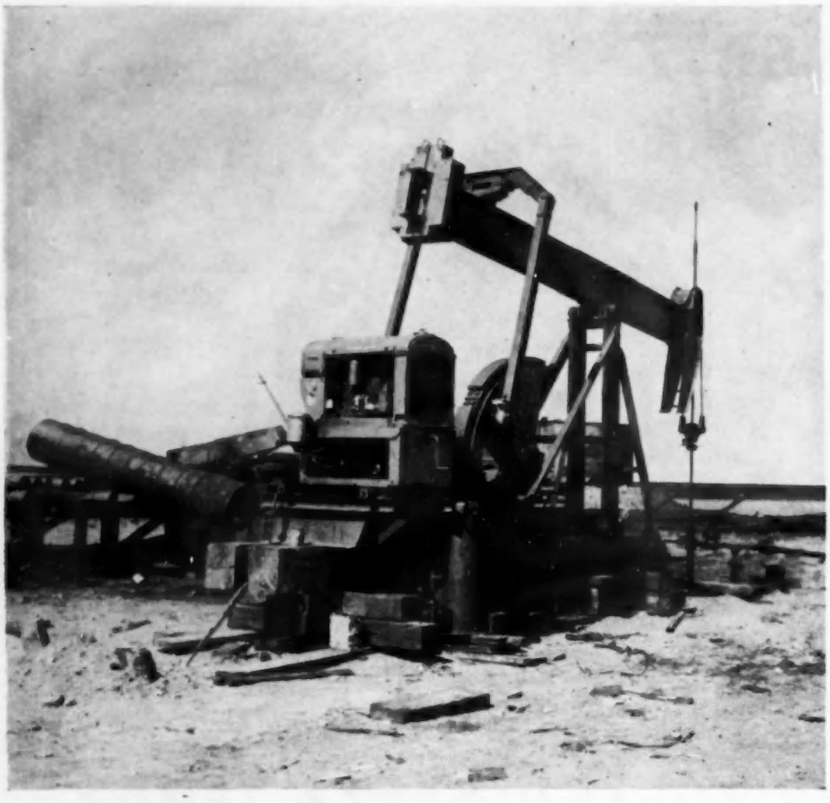
(Above) It seems that it's becoming more and more common . . . a battery of Columbian COP-NIC Tanks in a sour crude district.



A saving in completion costs is being effected by one company operating in the Slaughter field by the use of an ordinary pumping unit in cleaning wells, to replace the necessity of long swabbing operations on wells that may not be in the more prolific areas. On prolonged swabbing jobs where considerable time and money is being consumed, as well as keeping the pulling equipment from being used on other new completions, it was found to be more economical to run a pump and string of rods in the well, and pump it several days at a long, slow stroke. After the well has cleaned up and sufficient live oil and gas brought in, wells usually flow.

width. Wells can not be spaced regularly nearer than 440 feet from property lines and 880 feet between wells.

The majority of the operators in the field have favored the 35.4-acre spacing, but in two or three small areas, due to lease conditions, the 17.7-acre density has been applied. The greatest portion of the field is divided into leagues which are in turn subdivided into 25 labors each. Each labor contains 177 acres, and the 35.4-acre spacing program usually results in spotting wells in each of the four corners and in the center of each labor.

Drilling and Casing Practices

Drilling in the Slaughter field calls for a surface string of between 8⅝- and 10¾-inch casing to be set from 200 to 400 feet below the surface as protection to the surface domestic waters. Cement is circulated to the surface. Open hole usually is carried from this point down to within 20 feet of the top of the pay zone, after which 7-inch, or the more commonly used 5½-inch oil string is run in the hole. Four-inch drill pipe is most commonly used size for drilling hole above the pay.

The presence of a 500-foot bed of salt between 2400 and 2500 feet, makes it necessary to swing or hang the casing in the hole, and then cement it in place. During the drilling of this salt zone, solution action by the mud creates cavities sometimes two feet in diameter. To set casing on the bottom of the hole with this cavity existing up in the salt section would be to invite shearing off of the string, or at least so badly warp it that difficulties in running tools and the tubing string would be experienced.

On the east side of the field the practice is to cement the string in place with the shoe between 50 and 100 feet above the top of the pay. On the west side, where a small water stringer is encountered a short distance above the pay, the casing shoe is swung about 5 feet above the top of the pay, and then cemented. From 200 to 300 sacks are used in cementing the oil string. Several operators in the field drill to total depth before setting the oil string, reducing the size of the hole 20 feet above the top of the pay, conditioning the mud to reduce water loss in the oil zone, and drilling on into the bottom of the pay. After hanging and cementing the oil string, the heavy rotary equipment is moved off and set up at the next location while the cement is setting in the first well. The hole size drilled into the pay is usually 4¾-inch, and is left uncased. In some wells 2-inch or 2½-inch tubing is used as drill pipe for drilling out the plugs.

Most of the operators, however, cement the oil string, then drill into the pay, using oil as the circulating medium. The reverse circulation method is used on many of the wells. Drilling usually is continued through the pay zone until a light brown, impervious bed of dolomite is reached near the expected bottom of the oil-bearing section. Salt and sulphur bottom water usually is found below this 5-foot thick bed.

On the outer edges of the structure where the pay section thickness is not positively known, some wells have been cased to the bottom of the oil zone, the entire hole cased, and the pay section then perforated and acidized through the perforations. Mud-logging has been used on some wells where the exact depths at which the oil is found may not be definitely known, and in cases where small salt-water lenses or "pockets" are suspected.

A majority of drilling companies keep accurate records of drilling time versus depth. Ten-foot intervals are recorded (the number of minutes to drill through 10 feet) from 2200 feet to the top of the pay. From there to the bottom of the hole, 1-foot intervals are recorded. Such records definitely improve drilling efficiency, enabling the driller to more accurately determine when his bit is becoming dull, and conversely, is instrumental in preventing him from coming out of the hole with a "green" bit.

Drilling Equipment

Steam, butane-powered engines, diesel, and diesel-electric driven rigs are in use in the Slaughter field. Derricks usually are of the 126-foot type, using draw works that are capable of drilling 7000 feet. It has been found that drilling is speeded considerably by using

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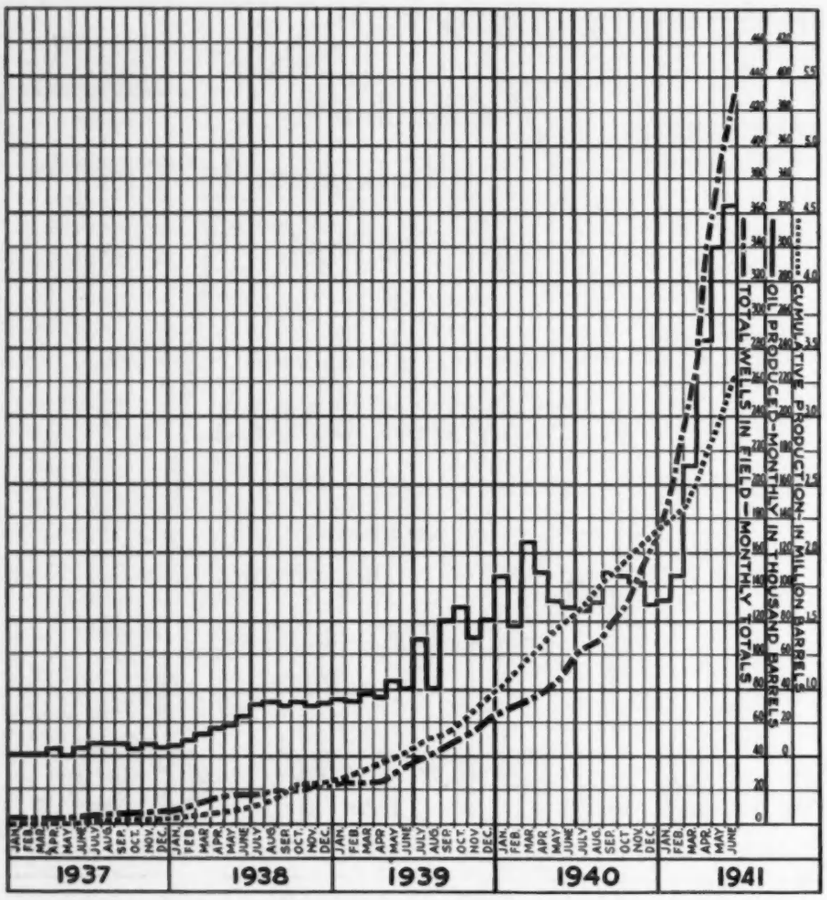

Graph showing rapid increase in well completions in the Slaughter field during last two or three years. Tapering off of the monthly oil production curve within the last month is the result of curtailed production because of congested pipe lines.

the oversize equipment. Many derricks are of the high derrick floor type, enabling the derrick to be skidded over the completed well Christmas tree without dismantling any of the equipment. Practically all derricks are skidded between locations, the land being sufficiently level to make such operations practical.

Drilling-in and completion operations usually are performed with portable spudder-type machines, or collapsible masts. It is considered to be more economical to use these smaller machines, as the several days normally required to drill in and complete the well would otherwise tie up the rotary equipment.

Water for drilling is obtained from a shallow domestic water sand. Most of the operators holding the larger blocks of acreage plan on drilling one of these water wells in the center of each labor so that the water can be piped to each of the five wells in that unit.

Drilling Mud

The most serious problem affecting drilling mud in the Slaughter field occurs when the 500-foot salt bed is drilled. Unless special precautions are taken, due to the washing action of the mud in the salt, salt content of the mud will often get up to as high as 11 pounds per gallon. If a good bentonitic mud is prepared just before entering the salt bed, however, much less washing-out action will be experienced. While drilling through the red beds most of the wells make approximately half of their drilling mud. The presence of salt water in the mud causes flocculation troubles while drilling in the salt-bearing intervals in the well, however, much of this trouble has been alleviated by the use of certain patented products that lend stability to the mud and lowers water losses.

Completion Practices

With few exceptions, the wells require acid treatment to attain a steady flow. Some few wells, probably not exceeding 5 percent of the field total, have been shot prior to acidization. Nitro shots used so far have averaged about 300 quarts. Acid treating is usually done in from two to three stages, the average total of acid used per well being between 8000 and 9000 gallons. Several wells have been treated with as high as 14,000 to 16,000 gallons.

Before acidizing, the well is swabbed through either tubing or casing in order to establish whatever natural flow can be obtained, and clean up the well of cuttings and drilling fluids as much as possible.

The first, or wash treatment of acid consisting of 500 gallons is lubricated into the tubing, and allowed to remain in the well for only an hour or less. This is then swabbed out through the tubing, and natural flow again established, producing naturally for approximately 12 hours.

The second treatment of 2000 to 4000 gallons is pumped in under the pressure required to break down the formation resistance, usually about 1600 pounds, followed by a 20-barrel charge of oil to displace the acid in the tubing, and then swabbing is started immediatly. Some operators employ the use of wetting and catalytic agents. The well is flowed naturally again until it cleans up to less than 1 percent cut of B.S. and acid water.

If it is considered necessary, a third pressure treatment of from 5000 to 11,000 gallons is pumped into the well, followed by swabbing and natural flow.

Two drag bits and from 16 to 19 rock bits are usually required in drilling a well. Hardest drilling occurs in the last 2000 to 2500 feet of hole where most of the lime and anhydrite beds are penetrated.

Moving on, drilling, and skidding off the rig usually take about 21 days. Another three or four days then is required to acidize, swab, and bring in the well ready for the initial potential test.

Drilling and completing costs range from $27,000 to $32,000 to flow into the tanks. An additional $4500 is required, however, if the well does not flow naturally, making it necessary to install pumping equipment.

Drilling Activity

Current activity in the field includes approximately 50 wells drilling, between 40 and 50 testing or completing in the pay, and over 50 locations staked. Wells are being completed at the rate of over 60 per month, with the rate on the increase. Thirty-three operators are actively engaged in developing.

As of June 30, there were 428

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wells in the field on 114 leases.

Relatively large leases are not uncommon in the field. The Texas Company succeeded in creating an unusually large unit block in the original Slaughter area of the field consisting of 6219 acres involving many fee owners besides the Slaughter ranch property. It was possible to create such a large unit because the oil play had not yet been considered as possibly extending that far from the then widely scattered wildcat wells.

With the possible exception of several of the major lease holders who run their own tools, nearly all the drilling in area is being done by drilling contractors.

Well Potential and Sub-Surface Data

Well potentials are determined by conducting an open-flow or pumping test of the well for a 6-hour period, and the oil so produced multiplied to obtain the calculated 24-hour potential. Over 90 percent of the wells are flowed through the casing during the potential-taking period. The only limitations are that no tubing larger than 2½-inch is to be used, and that once the test is started, no changes in flowing or pumping equipment are to be made.

Calculated well potentials in the Slaughter field vary considerably. Depending upon the structural location, potentials as high as 2000 to 2400 barrels per day have been obtained from some of the better flowing wells. Other wells, including the few pumping wells, show potentials as low as 200 to 400 barrels per day. The initial potentials of 178 wells show an average potential of 844 barrels per day.

A bottom-hole static pressure survey of each well is taken at least once a year. Calculated to a datum of —1350 feet, the average pressure of 157 wells in the field shows approximately 1580 pounds per square inch.

Allowables are assigned on the basis of 50 percent to acreage, and 50 percent to the well's potential. The allowable is not determined, however, until after any sub-marginal and high gas/oil ratio penalties have been applied. The rules state that any well will be penalized if its gas/oil ratio exceeds 2000 cubic feet per barrel.

The average well allowable per calendar day is approximately 30 barrels. It has been estimated that due to congestion in pipe lines, production in the field is only approximately 75 percent of the possible allowable.

Gas/Oil Ratios

Since most of the gas produced in the Slaughter field is solution gas, the gas/oil ratios are comparatively low, ranging from as low as 100 cubic feet per barrel or less, up to as high as 1500 to 2000. Ratios seldom exceed 1000, however, and the average range for the field as a whole lies between 400 and 800.

Flowing Wells

Completed wells when brought in flowing usually are equipped with a single-gate Christmas tree, including a single casing outlet and a single flow bean from the tubing. Most of the wells are connected up so that either the tubing or casing may be flowed through the same fittings.

Either 2 or 2½-inch tubing is used. The usual practice is to touch the tubing on bottom, then pick it up and hang it 2 or 3 feet off bottom. Production enters through a 3-foot perforated nipple just above a 3-foot bull-plugged anchor on the bottom of the string.

Pumping Wells

As of June 30, 1941, there were only 23 pumping wells in the Slaughter field. Such wells usually are found to be in the outer edges of the field, or when in the field proper, have suffered a lack of porosity in that particular spot. Probably the greatest percentage of these wells on the pump are merely agitating-flowing, the well having not quite sufficient bottom-hole pressure to flow naturally.

Tankage and Surface Equipment

Despite the extreme corrosive properties of the Slaughter crude, many of the operators have installed steel tank batteries. Since these tanks may not last long before corrosion sets in seriously, more operators are now installing wooden tanks. From two to three high or low 500-barrel tanks usually constitute a typical field battery. A separator handling the collective production from all of the wells tied in to the particular battery is set to one side of the location.

Very few service derricks are left on the wells in the field. Those that are left permanently usually are of the short, production type. Most of the pulling and servicing work is done with small portable masts or spudder units.

Pipe Line Outlets

Pipe line outlet for the field is fast becoming one of the major problems. Up until a month or two ago the crude transportation facilities were considered to be adequate for the field at that time, but sharply increasing completion rates of wells have of late taxed the ability of the existing lines. It has been estimated that the present rate of production of the wells in the field

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Charles E. Hipp of Graham, Texas, recently finished deepening Continental Oil Company's No. 1 on the Ross Lease in Wichita County from 5,470' to 5,515' with a Bucyrus-Erie 36-L spudder. While we do not recommend use of the 36-L at depths so far beyond its rated capacity, nevertheless the performance record on this well proves beyond question this machine has ample reserve strength and power for handling drilling and servicing to the 3,500' formations for which the machine was designed.

Says Mr. Hipp about the performance, "The 36-L handled this work with the same ease and efficiency that I have experienced on 4,000' wells. It had ample power at all times. We had to splice 1,000' of ⅞" cable to the 5,000' on the bull reel, so you may see there was considerable weight (x) in cable to handle in addition to the 2,500 lbs. of tools. We also ran a 4" liner in this well and 5,500' of 2" upset tubing over our calf reel with three lines."

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is approximately 75 per cent of the allowed prorated field allotment, due to the congested outlet facilities. As of June 30, there were 9 leases containing 26 wells, that had no pipe line connections. Production from these wells is being handled by trucking.

A 34-mile, 4-inch pipe line was laid in July, 1939, by South Plains Pipe Line Company from the field to the 4000-barrel capacity refinery of Motor Fuels Corporation near Levelland, and has since been handling crude at capacity runs.

The first direct pipe line for the Slaughter field materialized December, 1940, when Magnolia Pipe Line Company placed in operation a 50.7-mile, 8-inch gravity line from the field to its 8-inch carrier connection in the Seminole field in Gaines County. This line can handle 6000 barrels daily, but the capacity could be stepped up materially by installing a pumping system along the line leading into Seminole.

The Texas-New Mexico Pipe Line Company became the third crude outlet, and the second trunk line outlet, in laying 4 miles of 14-inch, 82½ miles of 8⅝-inch, and 19 miles of 10¾-inch, in the order named, from the field down to Midland. This line also operates by gravity, with a rated capacity (by gravity) of 8000 barrels daily.

Richardson Pipe Line Company has installed 44 miles of 6-inch line from the Sundown sector of the field to Aloco Pipe Line Company's 6-inch line in the Wasson field. This line will probably not exceed 5000 barrels capacity because of congestion in the other lines out of the Wasson area. Initial runs in this line began in June of this year.

Estimated Recovery

Few estimates on ultimate recovery are available due to the reluctance of most of the larger operators to hazard a statement while so little is yet known regarding field conditions as a whole. Several conservative estimates of from 4000 to 9000 barrels per acre have been made. An example of what might be expected of some of the wells in the field might be drawn from the performance to date of the original Duggan discovery well in the western end of the field. Since its discovery in 1936 it has flowed some 84,000 barrels of oil, and bottom-hole and potential tests regularly conducted since that time have indicated very little if any appreciable decline in pressure. It is still flowing. On the assumption that this well may be draining a 20-acre area, the recovery thus far of over 4000 barrels per acre is significant.

Deeper Pays?

Some authorities on the West Texas, and particularly the North Basin areas, believe that the Slaughter field will most likely have production possibilities in lower zones, particularly in the Lower Permian, and perhaps as deep as the Ellenburger (Ordovician). This is based on relatively incomplete findings in several deep test wells in nearby areas, chiefly the Wasson field. Amon G. Carter's A. L. Wasson 5D in the Gaines County portion of the Wasson field was completed in December, 1940, after acidizing, for 790 barrels per day of 32.1-gravity oil, from a broken-pay zone not yet positively identified, from 6250 to 6881 feet. This is the only deep production in the Upper Basin. The same company has recently been drilling another test 1760 feet north of this well. The test was carried down past the known oil zones to 11,108 feet, but was unable to develop much information

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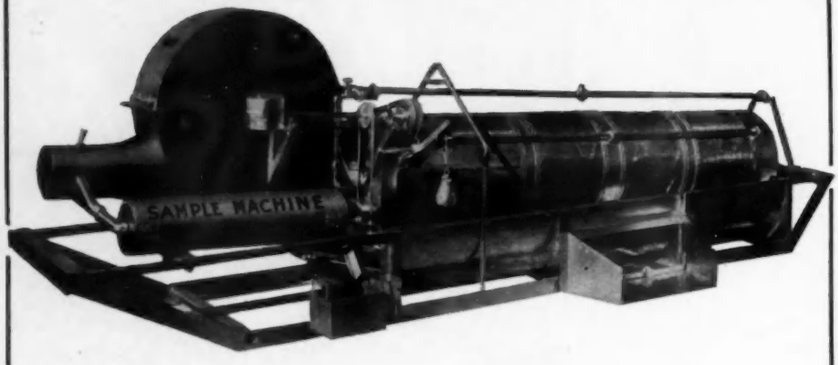

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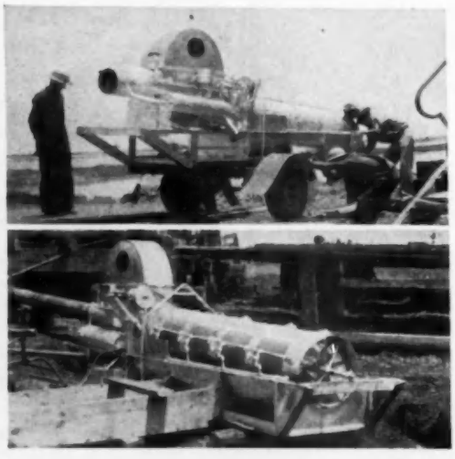

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at this depth due to a heavy flow of water. This latter well is currently testing other possible shows farther up in the hole.

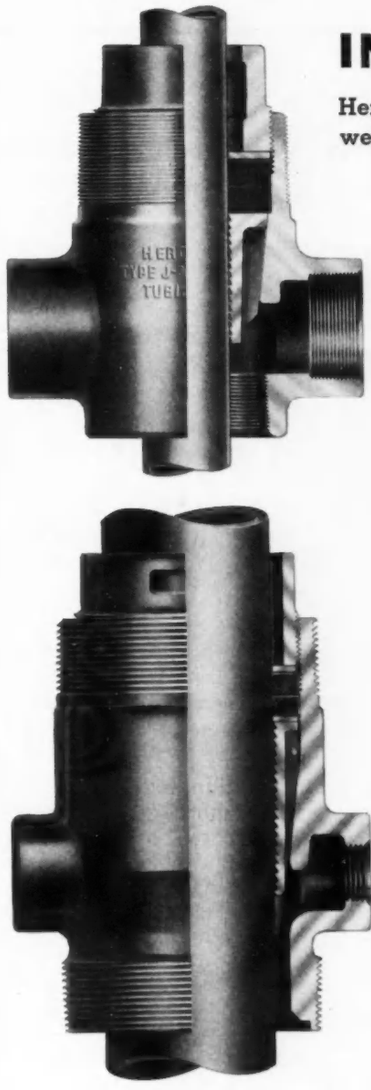
To date no tests have been drilled below the Permian pay within the outlines of the present producing area of the Slaughter field. Only two nearby deep tests, both dry holes, have been drilled near the confines of the present outlined producing area. Gulf Oil Corporation's Mallet Land and Cattle 4 in PSL Section 5, Block X, just within northern Terry County, was carried to 6000 feet after finding the regular Permian pay missing or not productive, and was abandoned after finding the Holt or Clear Fork lime (which produces in North Cowden field in Ector County) absent or shaled out. In a northeast outpost well, Magnolia Petroleum Company missed the regular pay in Maple Wilson 2, in the southwest corner of Labor 10, League 41, Maverick CSL Survey, Hockley County, and abandoned at 5600 feet in the Glorietta, topped at 5496 feet, elevation 3574 feet.

Future Field Outlook

The future outlook of the field, in regard to its ultimate size and importance as a major field in the important West Texas sector, is predicated largely on two factors or problems. The most immediate problem is that of outlets for the field's crude output, which already are proving to be inadequate. Facilities will have to be provided for boosting the present capacity of the existing pipe lines, probably by installing pumps on those lines that now flow by gravity. Installing loops in certain sections of the present lines may further aid in the relieving of congestion. Without doubt, other pipe lines will ultimately be laid. Until these conditions are brought about, continued expansion of the field will tend to become less attractive.

The second problem now faced by operators in the field is that of being assured of continued supplies of casing, other types of tubular goods, and all types of steel machinery and fittings. Deliveries of casing already have slowed down, in several cases even forcing the operator to shut down for several days.

Currently, it seems entirely probable that should development be continued, for the greatest part, on the 35.4-acres spacing program, the field will ultimately have between at least 1500 and 2000 wells.



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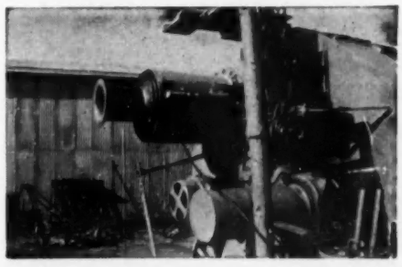

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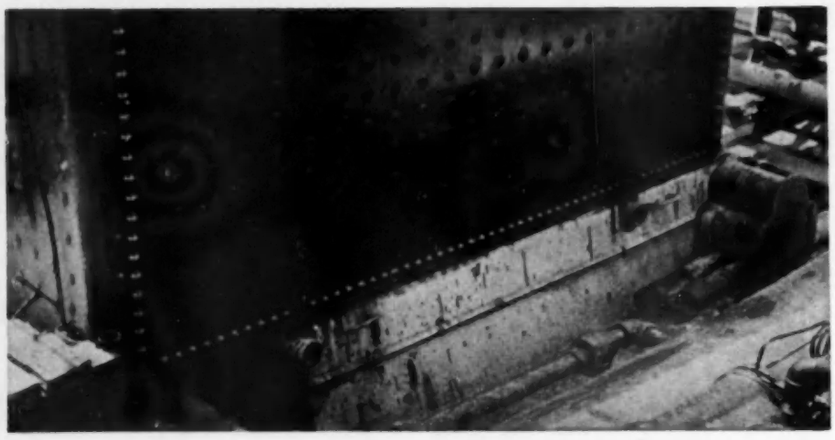
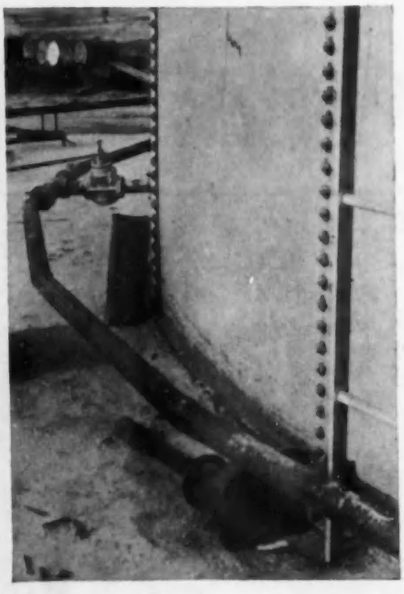


Chains supporting pipe racks for the burner are carried outside this fire box.

BY REMOVING the customary chains used for supporting the pipe racks on which the burner installation is carried from within the firebox to a like height outside the water leg, the chains and their supports are protected from the intense heat of the firebox and their life increased many times.

Shifting the supporting members from within to outside the firebox permits more accurate leveling of the burners for best combustion effect, and enables the burner unit to be so designed as to avoid any cold air passages between water leg and burner unit—such as would be present were space left for the chains and their supports.

The pipes carrying the burners may be made just long enough to extend through any baffles used to direct draft through the burner unit, thus permitting easy inspection at any time.—*M. M. Cooke, Baytown, Texas.*



Mud is kept from settling in this emergency tank by a jet system at bottom.

2. MUD HANDLING

Storage Tank Carries Emergency Supply

AN EMERGENCY mud storage tank is considered a necessary part of the drilling equipment on some of the deep drilling projects in certain California fields. One company makes it a practice to maintain a 1500-barrel tank of mud near each location for use when circulation is lost.

Since one of the troublesome problems encountered in use of such storage tanks has been to keep the mud sufficiently agitated at regular intervals to prevent it from settling out on the bottom of the tank, a jet system was installed. A 2-inch line, leading from one of the high-pressure mud pumps, was curved and assembled around the base of the tank. At each of four equidistant points around the tank, a tee was placed in the line to allow mounting a 2-inch plug valve and a short line leading a short distance into the tank. Two 1-inch nozzles, pointed 45 degrees apart, were welded to the end of a 2-to-1 inch swage screwed on the end of each of the four pipes.

At certain intervals, depending on characteristics of the mud, a high-pressure stream of mud or water is injected into the bottom of the tank to thoroughly stir any mud that has settled out. A jet gun mounted on the top of the tank also is used to aid in the agitation.

Hammer-type unions in the 2-inch piping make it a quick, easy job to tear out or set up this agitation system.

3. RIGGING UP

Wire-Line Tie-Down Provides Flexibility

USING a short section of 1¼-inch drilling line as tie-down in the engine foundation, in place of the more usual eyebolt, provides additional flexibility to the set-up, and permits use of a turnbuckle and bolt of the proper length without need for a length of drilling chain to provide for slight shifts in engine position.

The loop of wire line need not be spliced, the additional gripping power of the concrete on a simple loop being ample to insure against possible stripping of the tie-down from the foundation itself.

Since the loop is used only for the duration of the drilling operations, ample material is present to withstand any chafing which may be set up between turnbuckle hook and the wire rope. The wire loop does not present the obstacle to trucking which a long rigid eyebolt offers, and when moving off, the trucks may drive across the foundation without damage to tires or possible injury to running gear.

Use of the resilient wire line loop

THE DRILLING RIG . . .

A section of drilling line is used as a tie-down to provide greater flexibility.

instead of the eyebolt has been found to increase the useful life of the turnbuckle assembly by cushioning slightly the shocks of drawworks engine operation, and thus preventing overstressing of the threads or the equally damaging pounding under rigid loading.—*W. M. Kelly, Bay City, Texas.*

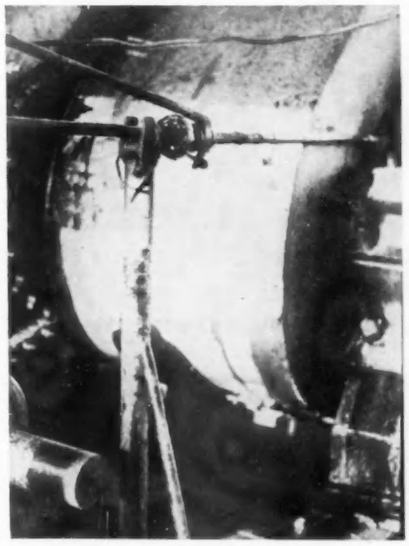
4. RIGGING UP

Throttle Rod Employs Universal Joint

IN ASSEMBLING the drawworks and engine of a rotary drilling unit, it was found by the mechanic that the steam throttle control rod would have to be brought around at a considerable angle in order to be operated properly from the front of the drawworks.

To solve the problem, a small automotive drive-shaft universal joint was connected to the control rod by welding at the point where it made the greatest angle. Just in back of, and on the engine side of the joint, the rod was supported by running it through a single link taken from a used rotary chain. This link was welded to a 2-inch pipe stand fastened to the derrick floor. The engine reverse linkage was operated in the normal manner by fastening the grooved collar to the shaft at a point just in front of the universal joint.

This method of connecting the throttle controls also provide an advantage over the usual linkage connections as the throttle wheel was more easily controlled due to the more solid joint connection.



Universal joint in steam throttle control rod brings it to draw-works front.

THE practical operating hints for the drilling rig and production man, appearing in these features each week, are secured from oil fields everywhere and offer suggestions that will help to improve field efficiency and safety. The items give an excellent picture of the remarkable ingenuity being exercised by the operating divisions of the industry. Contributions to these features will be paid for at the rate of $5 for each illustrated item accepted. Address contributions to "The Editor, THE OIL WEEKLY, Houston."

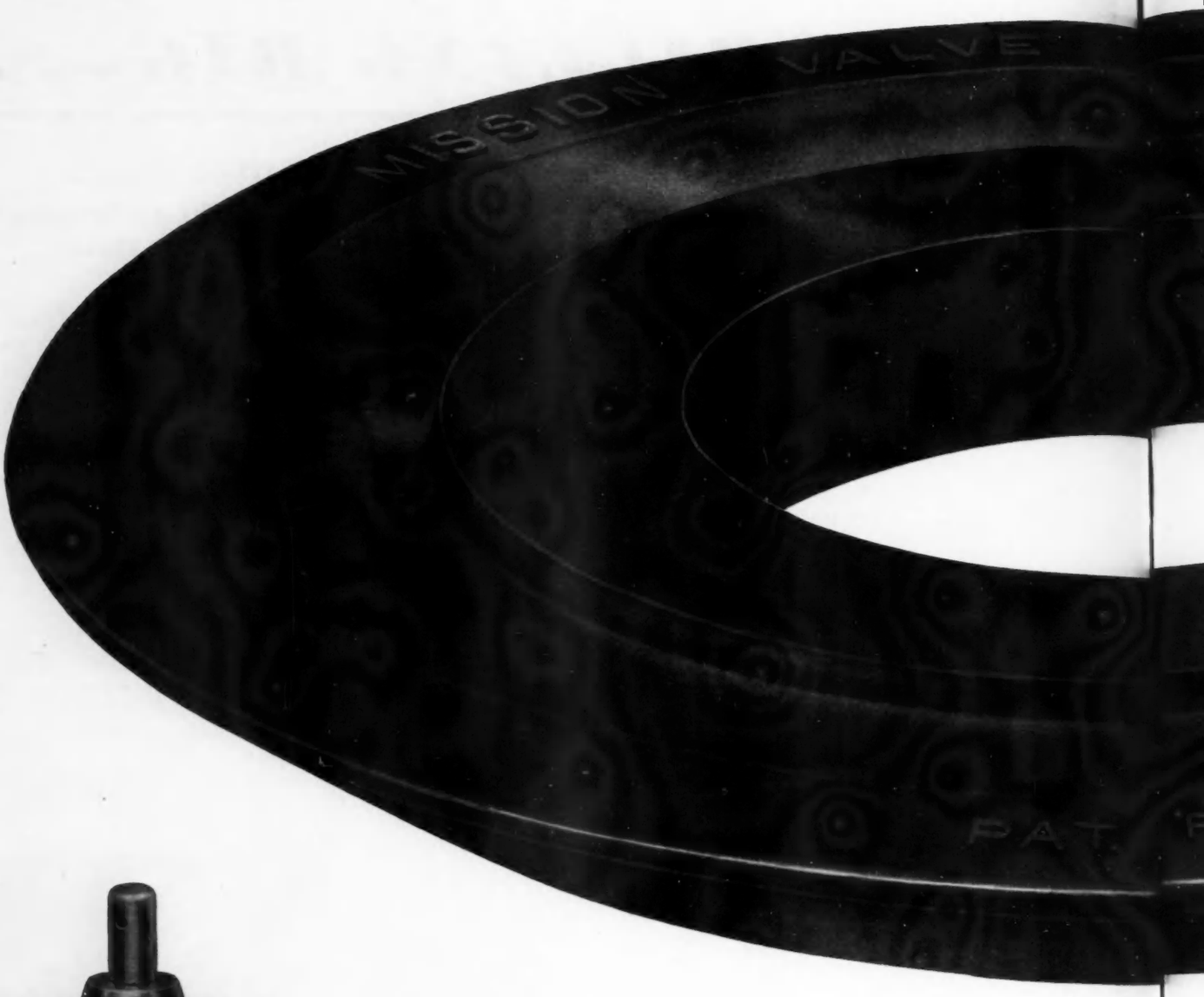
5. SAFETY

Gauge Shows Pressure Behind Rams

TYING in the high-pressure mud line to the blow-out preventer assembly on the same branch that carries the mud-pressure gauge gives the driller accurate knowledge of the pressures behind the rams in case of emergency closing.

By introducing a full swing in the line, in which the mud stream is forced through four additional ells or their equivalent, all vibration and pounding imposed on the standpipe by the slush pumps is equalized or damped out, and none of the jar transmitted to the preventer assembly. Placing this swing above the derrick floor permits constant inspection of the joints for possible leakage, and provides mounting of the control quarter-turn valve in a position most convenient for quick operation.

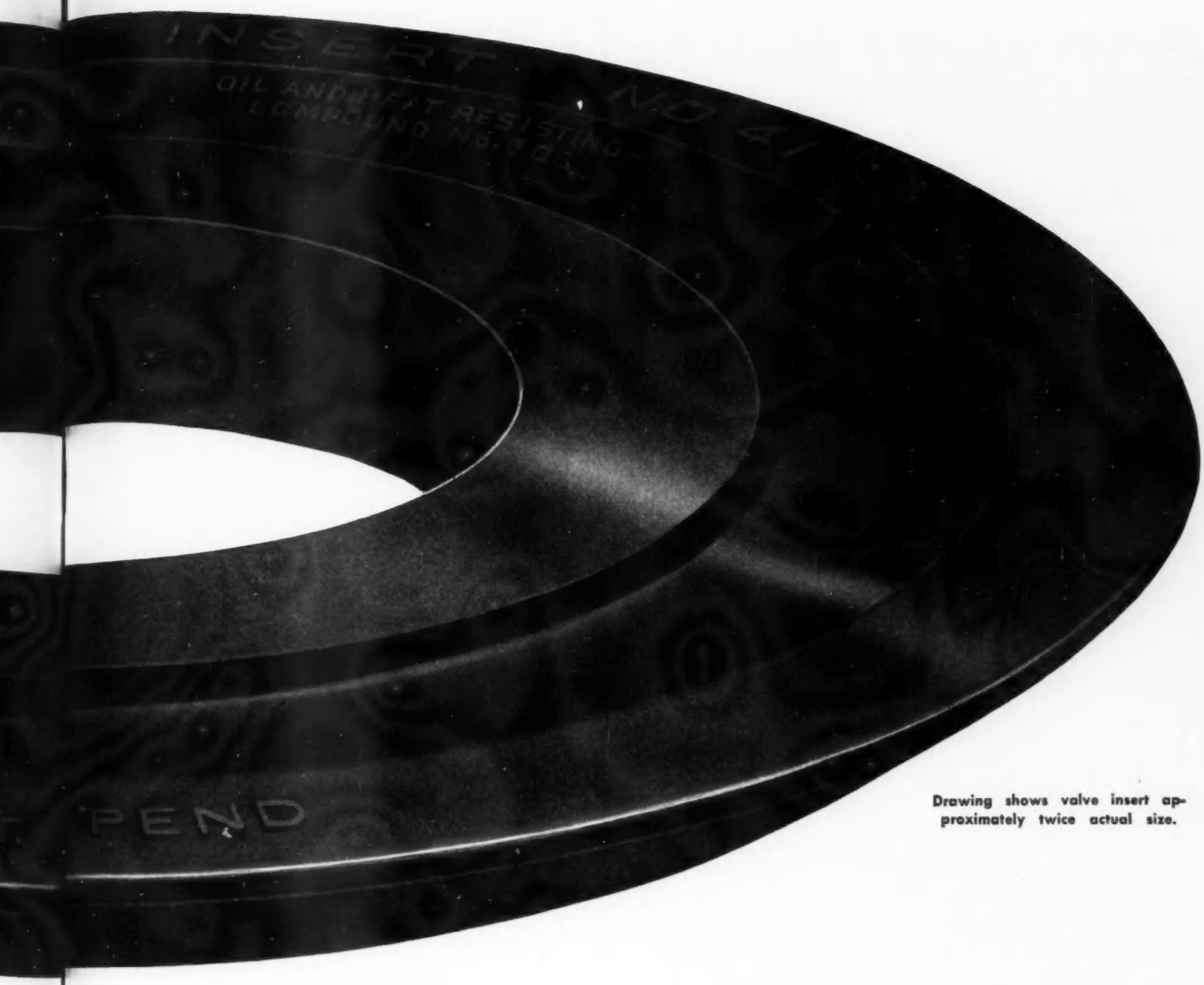
Pressure gauge on line to blow-out preventer gives pressure behind rams.



New MISSION

These *Universal* inserts (Compound 308) wear three to five times longer than regular inserts in ordinary mud and up to ten times longer than oil-resisting inserts in hot mud, treated mud or oil and gas.

One *Universal* service type insert is used for all types of mud.



Drawing shows valve insert approximately twice actual size.

Universal VALVE INSERTS

COMPOUND 308

This new compound is extremely tough for longest life under all conditions, and it is resistant to chemical action for long life in the presence of oil and gas or chemically treated mud.

A new insert design takes full advantage of the 308 compound. The result is an extremely strong, long-wearing insert.

While these inserts cost slightly more than Mission Regular Valve Inserts, they wear so much longer that insert costs are cut more than half.

Two years of research and field tests under all conditions have proved beyond doubt that these inserts greatly reduce valve maintenance costs.

This compound is not a substitute due to priorities but a development started two years before priorities and proved to be from 5 to 10 times more durable than regular oil resisting compounds.

Try these new Mission Valve Inserts in your pumps right away. That's the best way to find out how much they will save in ***your*** pumps. Mission Manufacturing Company, Houston, Texas. Export Office, 30 Rockefeller Plaza, New York.

MISSION

SLUSH PUMP PARTS

Your pumps stay running longer and cost less to repair when equipped with Mission Pump Parts

Practical Operating Hints for

1. EQUIPMENT CARE

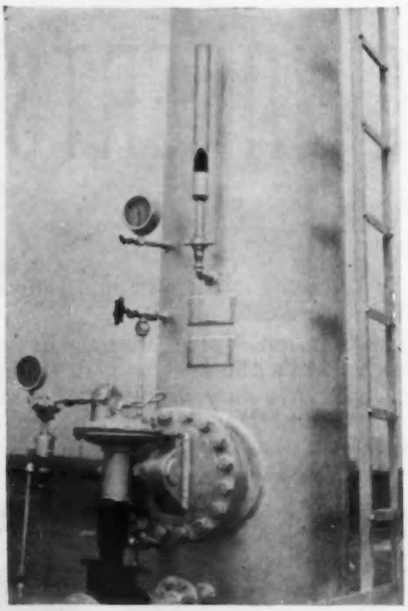
Electric Pumping Motor Mounted Under Sampson Post and Enclosed for Protection

Sampson post houses the electric pumping motor, affording enclosed protection.

BY SETTING an electric motor driving a pumping unit under the sampson post, advantage was taken of the four heavy steel angles forming the supports to fabricate an enclosure which offered protection against oil field thieves except those equipped with a cutting torch, and which effectively stopped the petty pilfering which formerly resulted in loss of motors, V-belts and other readily detachable units.

The sides of the enclosure were formed from tank plates, cut to fit the trapezoidal openings between beams, with space provided for a belt guard, likewise of steel, which was fastened in place within the enclosure. A door of steel plate, hinged at one corner post and equipped with welded hasp and padlock, provided complete enclosure of the power unit.

A one-inch high louvre, around the top just under the flat pyramidal steel roof, provided outlet for sufficient draft for motor ventilation and to prevent overheating.



Whistle on this high-pressure separator advises when the rupture disc blows out.

2. SAFETY

Separator Disc Blow-Out Gives Warning

DUE to remoteness of many high-pressure flowing wells from the production office or dog house, sometimes exceeding a mile or more, one company operating in the San Joaquin Valley, California, has found it advantageous to install a shop-made whistle on the down-stream side of the rupture disc on each primary high-pressure separator.

Normally operating at 470 pounds, the traps are equipped with discs that will blow out at between 750 and 800 pounds. Changes in atmospheric temperature, causing freezing of the lines or fittings, usually account for the greatest number of rupture discs blown out.

On breaking the disc, the high-pressure gas will escape through the whistle, creating a far-reaching note similar to that of a fog horn. The whistle, constructed of a 2-foot length of 2-inch pipe and mounted on the side of the separator, immediately identifies the well at which the trouble has occurred.

Before installation of the whistles, it quite often was difficult for the pumper to hear the noise of the escaping gas alone, particularly if the prevailing wind happened to be blowing in the opposite direction, resulting in further damage to the equipment or drenching the surrounding location with crude oil before the break was discovered.

3. HOUSING

Storage Tank Makes Lease Tool House

AFTER a low 250-barrel tank had developed so many leaks it was no longer suitable as an oil container without extensive repair, the tank was converted to a tool

This steel lease storage tank has been converted into a convenient tool house.

house for H. D. Berkey's Wilson lease, Prague pool, Oklahoma, at an expenditure of only $35.00 and the assistance of a welder and his cutting torch.

The base of the tank was floored with a one-inch coating of concrete to afford a safe footing and to provide a dry surface upon which to store supplies. With the cutting torch, space for two windows and for the door were cut through the tank side sheets, and bars were welded across the window openings to provide security for the material stored within. The door, supported on hinges welded to one side of the opening, is also equipped with hasp and padlock to enable the unit to be made secure.

Gas from the lease, piped into the house, permits use of a small stove for heating during the winter, a tee with short extensions at the former tank vent providing the necessary outlet for fumes and insuring ventilation even with the door closed.

4. EQUIPMENT CARE

Box Protects Supplies At Remote Location

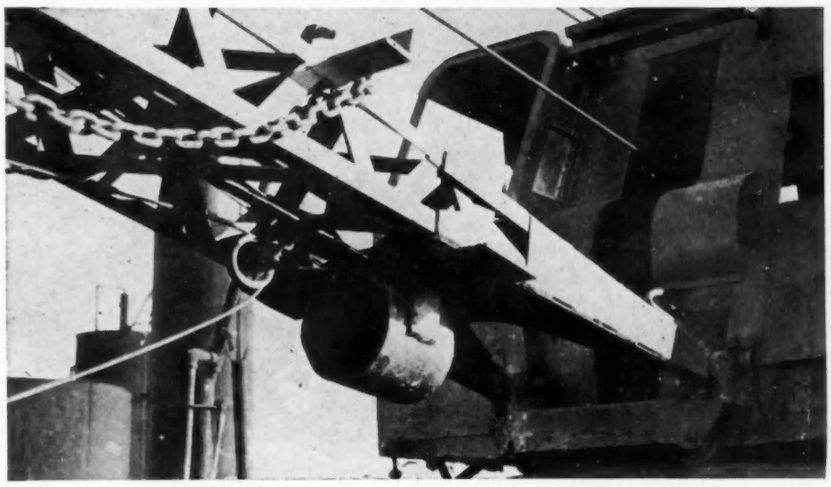
FOR the convenience of pumpers who must service wells in remote or outlying districts, where it is not convenient to carry all the supplies that might be needed, a convenient, tamper-proof supply box may be built and left at each well.

A weather-proof, sheet-metal covered box may be secured to the concrete foundation of one of the derrick legs on the side of the derrick opposite to that used when the well is being pulled. An upward-swinging hinged cover may be provided with a pair of automobile trunk brackets so that the cover will stay up while lubricants are being poured from the containers. Ample shelf space likewise may be provided for clean wiping rags, spare stuffing-box rubbers, chemicals and tools. A heavy hasp and padlock on the bottom of the box assures protection of the supplies from vandals between service periods.

This sturdy box, secured to derrick leg foundation, houses supplies for the pumper.

5. GADGETS

Bucket Supports 65-Foot Pole to Extend Effective Reach of Truck-Mounted Crane



A 65-foot pole is inserted in the bucket on this crane arm to extend its reach.

USEFULNESS of a truck-mounted crane was increased by one company by addition of a bucket mounted near the base of the crane arm. It consisted of a 12-inch section of 12¾-inch casing with a bottom welded in one end. After being welded to a sturdy base, the bucket was bolted to the arm. The bucket served as a base for a 65-foot wooden pole, the upper end of which extended far beyond the effective reach of the sheave end of the standard crane arm. The pole was firmly lashed to the steel arm at this point.

With this extra arm fastened to the crane, the effective reach was increased considerably, and aided in setting tall poles, tanks and other equipment around the lease that otherwise would have to be set up or moved only with much difficulty.

Favorable Outlook Indicated For Oil Industry

By L. J. LOGAN, Associate Editor

FOR the petroleum industry, probably the most auspicious straw in the prevailing erratic and uncertain winds is the relatively high appraisal being placed by the stock market on oil company securities.

While some men of the industry lately have become depressed by the increasing difficulties and uncertainties imposed by the war and the defense program, there has been manifested in the stock market, by those who attempt to see into the future, the opinion that oil companies are destined to fare comparatively well in the troubled months and years ahead.

Among the many different classes of securities available, investors and traders in recent weeks have shown pronounced interest in the oils, and stocks of the oil companies now are generally at their highest levels of the year, some being around the 1940 highs.

The current performance of the oil shares reflects not only the present strong statistical position of the industry, with oil inventories moderate in relation to prevailing demand, but also the assumption that operations will continue profitable indefinitely into the future, despite the difficulties that may be experienced because of the war.

Presumably, those who are putting money into the oil business are assuming that transportation difficulties, which constitute the most serious problem posed by the war, will be only temporary and of minor significance in the long run. Presumably, the investors feel that the industry without too much delay will manage to transport, as well as to produce and refine, all or practically all the oil for which there is a market—and the market demand obviously will continue to expand beyond proportions hitherto reached.

Even from the shorter viewpoint, there is indicated the opinion that better prices may go a long way toward compensating for any losses in volume of business by companies serving the Eastern states, in consequence of relinquishing tankers for British use.

In this connection, it is recognized that the best earnings since 1937 already are virtually assured for the industry as a whole, despite the uncertainties of the final quarter. Profits were comparatively good in the first half of this year, some companies having earned enough in that period to

Petroleum Demand Up 6 Percent Despite Small Exports

Figures indicate barrels, and are from Bureau of Mines

	MAY			FIRST 5 MONTHS		
	1940	1941	Percent Change	1940	1941	Percent Change
SUMMARY—						
Total Demand	121,190,000	131,414,000	+ 8.4	592,314,000	625,708,000	+ 5.6
Daily average	3,909,000	4,239,000	+ 8.4	3,897,000	4,144,000	+ 6.3
Exports:						
Crude Petroleum	4,886,000	4,339,000	— 11.2	20,723,000	11,859,000	— 42.8
Refined products	7,541,000	6,391,000	— 15.2	35,200,000	27,426,000	— 22.1
Total exports	12,427,000	10,730,000	— 13.7	55,923,000	39,285,000	— 29.8
Domestic Demand:						
Total domestic demand	108,763,000	120,684,000	+ 10.9	536,391,000	586,423,000	+ 9.3
Daily average	3,508,000	3,893,000	+ 10.9	3,529,000	3,884,000	+ 10.1
TOTAL DEMAND FOR PRODUCTS:						
Motor Fuel:						
Domestic	52,946,000	59,107,000	+ 11.6	223,163,000	250,372,000	+ 12.2
Exports	1,992,000	2,214,000*	+ 11.1	10,509,000	9,956,000	— 5.3
Total	54,938,000	61,321,000	+ 11.6	233,672,000	260,328,000	+ 11.4
Aviation Gasoline:						
Domestic	362,000	647,000	+ 78.7	2,391,000	3,052,000	+ 27.6
Exports	487,000	373,000†	— 23.4	1,690,000	1,728,000	+ 2.2
Total	849,000	1,020,000	+ 20.1	4,081,000	4,780,000	+ 17.1
Kerosene:						
Domestic	5,297,000	4,501,000	— 15.0	31,096,000	31,124,000	+ 9.0
Exports	386,000	174,000	— 54.9	1,959,000	693,000	— 64.6
Total	5,683,000	4,675,000	— 17.7	33,055,000	31,817,000	— 3.7
Gas & Oil Distillate Fuels:						
Domestic	9,738,000	11,159,000‡	+ 14.6	77,859,000	82,264,000	+ 5.7
Exports	2,130,000	1,460,000§	— 31.4	9,197,000	5,839,000	— 36.5
Total	11,868,000	12,619,000	+ 6.3	87,056,000	88,103,000	+ 1.2
Residual Fuel Oils:						
Domestic	26,338,000	30,372,000¶	+ 15.3	144,009,000	158,814,000	+ 10.3
Exports	1,379,000	1,001,000‖	— 27.4	5,751,000	5,562,000	— 3.3
Total	27,717,000	31,373,000	+ 13.2	149,760,000	164,376,000	+ 9.8
Lubricants:						
Domestic	2,063,000	2,732,000	+ 32.4	9,660,000	11,872,000	+ 22.9
Exports	1,173,000	1,118,000	— 4.7	5,684,000	3,874,000	— 31.8
Total	3,236,000	3,850,000	+ 18.9	15,344,000	15,746,000	+ 2.6
Wax (thousands of pounds):						
Domestic	24,103	40,497	+ 68.0	125,198	195,920	+ 56.5
Exports	22,404	14,543	— 35.1	116,611	64,421	— 44.8
Total	46,507	55,040	+ 18.3	241,809	260,341	+ 7.6
Coke (short tons):						
Domestic	111,400	119,500	+ 7.3	567,500	634,300	+ 11.8
Exports	23,000	35,500	+ 54.3	86,300	89,300	+ 3.5
Total	134,400	155,000	+ 25.3	653,800	723,600	+ 10.7
Asphalt (short tons):						
Domestic	466,000	547,500	+ 17.5	1,315,000	1,649,300	+ 25.4
Exports	30,800	25,700	— 16.5	122,500	103,500	— 15.5
Total	496,800	573,200	+ 15.4	1,437,500	1,752,800	+ 21.9
Road Oil:						
Domestic demand	611,000	770,000	+ 26.0	1,112,000	1,217,000	+ 9.4
Miscellaneous:						
Domestic	139,000	419,000	+201.4	693,000	1,397,000	+101.6
Exports	117,000	52,000	— 55.5	579,000	257,000	— 55.6
Total	256,000	471,000	+ 83.9	1,272,000	1,654,000	+ 30.0

* Includes 1,000 barrels benzol and 619,000 barrels exported from bond. † Includes 6,000 barrels anti-knock compound. ‡ Includes 720,000 barrels Diesel bunker oil. § Includes 300,000 barrels exported from bond. ¶ Includes 1,947,000 barrels bunker fuel oil. ‖ Includes 20,000 barrels exported from bond.

cover established dividends for the whole year; and results continue favorable in the third quarter, with prospects that the period will be virtually over before the threatened difficulties in supplying the East Coast actually are encountered.

In the fourth quarter, the scarcity of supplies of petroleum products on the Atlantic seaboard admittedly will become a reality, and the acuteness of the shortage will be in proportion to the additional diversion of tankers to British service, over and above the original transfer of 50 ships. (There had been hopes that the threatened shortage might actually be relatively insignificant, because of the compensating moves that were made following the original diversion of boats; but shortage obviously cannot be avoided under the reported new plans to divert 50 to 100 more tankers.)

Similarly, it appears evident that the oil companies will be unable to meet all the demand for petroleum products on the East Coast in the first quarter of 1942, as transportation facilities cannot be sufficiently expanded, through construction of new tankers, pipe lines and barges, until after the beginning of spring.

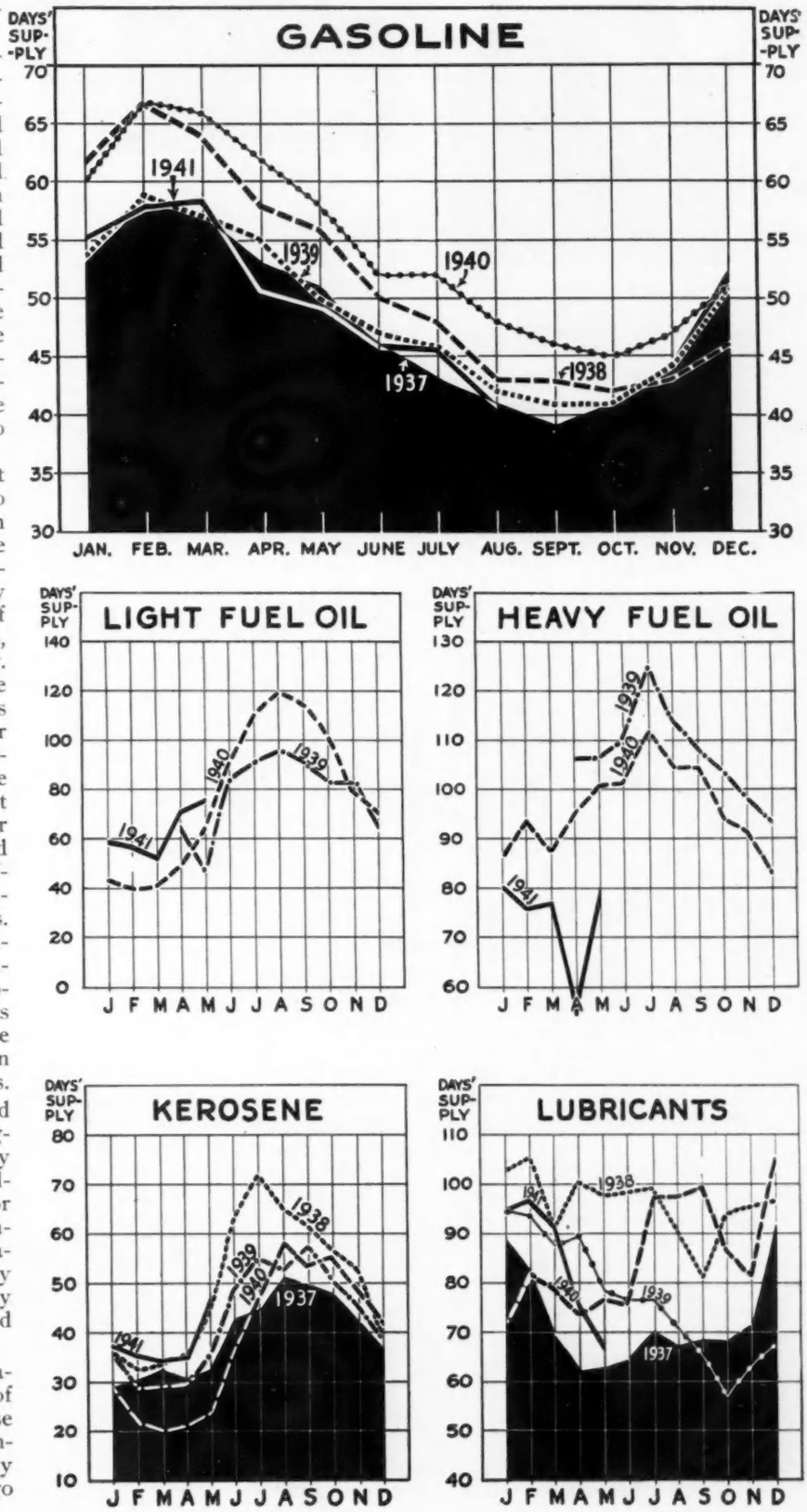
Borne in mind, however, is the fact that all of the oil companies will not be affected materially or directly by the East Coast situation. Concerns operating in the Mid-Continent and Middle West should be able to carry on their operations on a normal basis, and those in the Southwest will be affected only insofar as their business depends on Eastern markets. On the Pacific Coast, some business will be lost through discontinuance of Pacific-Atlantic shipments, but the primary concern is over the prospective loss of the Japanese market, which has been absorbing a tenth of California oils.

Aside from the above discussed considerations of immediate significance, buyers of oil company securities doubtless have been willing to pay increasing prices for them in the belief that they constitute good hedges against inflation, which is gradually but surely developing despite the preliminary efforts of the government to hold prices down.

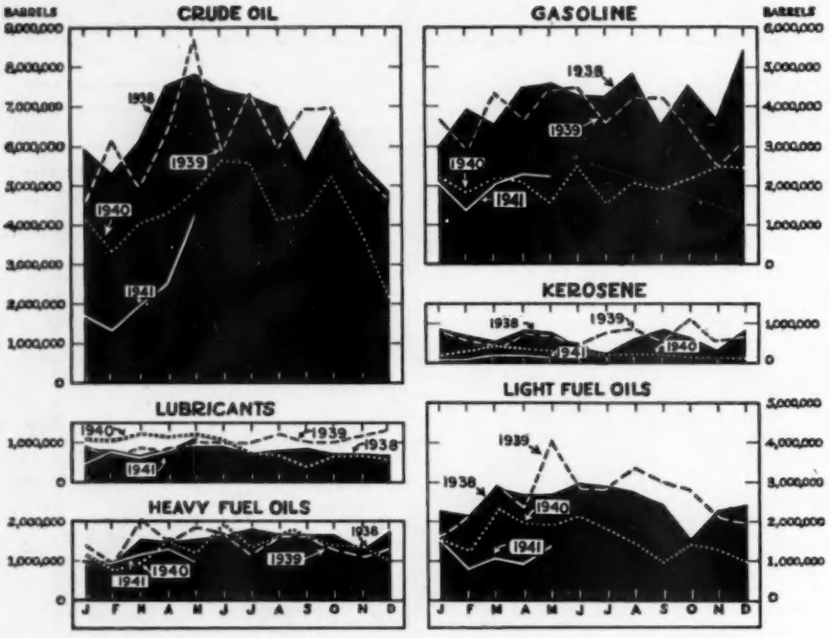
In a period of important inflation, funds invested in stocks of oil companies, particularly those with substantial crude reserves under ground, should fare relatively well. If prices in general should go

Days' Supply of Principal Refined Products in Storage

In relation to prevailing consumption, stocks of gasoline and lubricants are about the same as in 1937; those of heavy fuel oil are exceptionally low; and inventories of kerosene and light fuel oil are moderate.



U. S. Exports of Crude Petroleum and Refined Products



Petroleum Exports Currently Close to Year Ago

ITEM	MAY 1940	MAY 1941	MAY Percent Change	FIRST 5 MONTHS 1940	FIRST 5 MONTHS 1941	FIRST 5 MONTHS Percent Change
Crude Oil	4,886,000	4,339,000	— 11.2	20,723,000	11,859,000	— 42.8
Products:						
Motor Fuel	1,992,000	2,214,000*	+ 11.14	10,509,000	9,956,000	— 5.3
Aviation Gasoline	487,000	373,000†	— 23.4	1,690,000	1,728,000	+ 2.2
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Gas Oil and Distillate	2,130,000	1,460,000‡	— 31.5	9,197,000	5,839,000	— 36.5
Residual Fuel Oil	1,379,000	1,001,000§	— 27.4	5,751,000	5,562,000	— 3.3
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Coke (short tons)	23,000	35,500	+ 54.3	86,300	89,300	— 3.5
Asphalt (short tons)	30,800	25,700	— 16.6	122,500	103,500	— 15.5
Miscellaneous Oils	117,000	52,000	— 55.6	579,000	257,000	— 55.6
‡ Total, Refined Products	7,541,000	6,391,000	— 15.2	35,200,000	27,426,000	— 22.1
Total Crude and Products	12,427,000	10,730,000	— 13.7	55,923,000	39,285,000	— 29.8

* Includes 1,000 barrels benzol and 619,000 barrels exported from bond. † Includes 6,000 barrels anti-knock compound. ‡ Includes 300,000 barrels exported from bond. § Includes 20,000 barrels exported from bond. ‡ Not the sum of the above figures, some of which do not indicate barrels.

sharply higher, the market value of oil company properties and of oil held in reserve would similarly increase, and the capital tied up in ownership of those holdings would be relatively well protected.

Oil Demand Running High

In view of the uncertainties and the lately adopted governmental secrecy regarding further transfers of tankers to British service, no accurate forecast of demand for petroleum products in the closing months of this year is possible; although it is indicated that there will not be any material restriction of consumption on the East Coast in any event until after Labor Day.

In its forecast for August, the United States Bureau of Mines estimated that the domestic demand for motor fuel during the month would be 13 percent above the "rather low" actual demand in August of 1940, and that exports would amount to 2,200,000 barrels, compared with shipments of 2,087,000 barrels in August of last year. The bureau stated that loss of Gulf Coast markets through curtailment in East Coast consumption might be offset to considerable extent in August, provided no further tanker withdrawals occurred, by stepping up deliveries of remaining tankers in service, the shift of tankers from the California-Atlantic service to the Gulf-East Coast route, increased overland shipments, and participation in larger exports and increasing naval requirements.

In the first five months of this year, total demand for petroleum was 33,000,000 barrels larger than in the corresponding months of last year, an increase of 6.3 percent on a daily average basis. Domestic demand was up 50,000,000 barrels, or 10 percent, in totaling 586,423,000 barrels. But exports were down 17,000,000 barrels, or 30 percent, to a total of 39,285,000 barrels, with shipments of crude off 9,000,000 barrels (43 percent) and those of refined products down 8,000,000 barrels (22 percent).

Total demand for gasoline was up 11.4 percent for the first five months of this year, as a 12.2 percent increase in domestic use was offset only by a decrease of about 500,000 barrels (5 percent) in exports.

Figures on domestic and export demand for other major refined products appear in an accompanying table.

Stocks of crude oil remain moderate, and inventories of the major products are light, in relation to prevailing demand, as indicated in charts presented herewith.

Changes from Year Ago in Stocks of Crude and Refined Oils in the United States

(Figures Indicate Barrels)

LATEST WEEKLY DATA

(Sources: Crude stock, Bureau of Mines: all other figures American Petroleum Institute.)

STOCKS OF:	July 27, 1940	July 26, 1941	Percent Change
Gasoline	89,937,000	86,945,000	— 3.3
Gas Oil & Distillate	38,284,000	40,197,000	+ 4.9
Residual Fuel Oil	105,894,000	93,855,000	—11.3
Crude Oil	*261,596,000	†254,048,000	— 2.9

LATEST MONTHLY DATA

(Source: Bureau of Mines.)

ITEM	Stocks at End of May 1940	1941	Percent Change
SUMMARY—			
Crude Petroleum:			
Refinable in U.S.	261,839,000	262,111,000	+ 0.1
Heavy in California	13,265,000	11,241,000	—15.3
Natural Gasoline	6,514,000	5,856,000	—10.1
Refined Products	282,176,000	276,415,000	— 2.0
Total, all Oils	563,794,000	555,623,000	— 1.4
Days' Supply:			
May basis	144,000	131,000	— 9.0
5 Months basis	145,000	134,000	— 7.6
PRODUCTS—			
Gasoline:			
Finished	93,474,000	85,562,000	— 8.5
Unfinished	7,385,000	7,406,000	+ 0.3
Total	100,859,000	92,968,000	— 7.8
Aviation Gasoline	5,514,000	7,636,000	+38.5
Kerosene	5,309,000	8,421,000	+58.6
Gas Oil & Distillate Fuels	23,112,000	27,353,000	+18.3
Residual Fuel Oils	84,210,000	75,906,000	— 9.9
Lubricants	8,170,000	7,835,000	— 4.1
Wax (thousands of pounds)	103,289	118,456	+14.7
Coke (short tons)	681,000	385,000	—43.5
Asphalt (short tons)	759,000	964,000	+27.0
Road Oil	1,360,000	1,123,000	—17.4
Miscellaneous	405,000	378,000	— 6.6
Other Unfinished Oils	40,070,000	41,992,000	+ 4.8

* Stocks July 20, 1940.
† Stocks July 19, 1941.

HIGHLIGHTS IN THE WEEK'S NEWS

Washington

Farish and Pew Criticize TNEC Petroleum Monograph

Heads of Standard Oil Company of New Jersey and Sun Oil Company last week criticized the monograph on the petroleum industry prepared for the Temporary National Economic Committee by Roy C. Cook, of the Department of Justice, and were answered by the author of the report in a supplemental monograph issued by the TNEC.

The supplement, issued some months after the termination of the committee's lengthy investigation of monopoly in industry was published to keep a promise made W. S. Farish and J. Howard Pew.

The company heads' criticism of Cook's report was based primarily on his contentions that control by the major companies today is as complete as in the days of the "oil trust"; that there is definite evidence of cooperation and uniform concerted action by adoption of identical business policies by the major, and that the independent has become weaker.

These contentions, it was asserted, are "without foundation" and, the two company presidents said, "it is highly significant that little evidence from the TNEC is cited to support the assertion of monopolistic conspiracy.

"If there were a conspiracy, the TNEC record would have revealed it," they asserted. "The TNEC record is a voluminous one. It contains many complaints, but most of these arise from the vigorous character of competition."

Discussing the basic factors outlined by Cook, the critique declared that control of the industry is not highly concentrated, nor is concentration increasing. Integration, it was held, has real advantages for the economical supply of products for the use of the consumer public, and the American Petroleum Institute's activities are not carried on for the benefit of the majors and at the expense of the independents.

The review was especially critical of Cook's conclusions on production, declaring that "the general theme of this and other sections of Monograph No. 39 is that independents are in one line of trenches facing with drawn pistols another line of trenches occupied by majors who are armed with cannons.

"It is perhaps unfortunate and certainly misleading to paint a warlike picture of the relations between independent producers and major companies, because it is common knowledge that these groups are not best described by a scene presenting them ready for battle. On the contrary, there is considerable cooperation between them and each group realizes that depression and prosperity will treat them alike. The majors willingly admit that the independent is an important and necessary part of the production division of the business and have no desire whatever to eliminate him from the industry.

"On the whole," it was commented, "Mr. Cook's chapter on crude oil production gives an inaccurate picture of the position of the independent producer. None of his principal contentions are borne out by testimony presented before the TNEC.

Cook's Condemnation of Conservation

"Mr. Cook's discussion of proration amounts to a rejection of all conservation efforts. In his eagerness to prove that the majors are oppressing the independents or nonintegrated operators, he protests that proration is not true conservation and that anyhow there is no need to regulate production, because there is no danger of exhaustion of crude supplies and because, even if they were exhausted, practically inexhaustible resources still remain in shales, coal and other substitutes. In thus taking up the cause of those who oppose all conservation efforts, he places himself in direct opposition to the whole policy which the national government and the governments of the oil-producing states have adopted after many years of consideration and experience."

Overlooked entirely in the monograph, the company heads charged, are the advances and achievements of the industry. These, it was asserted, "are not the sort of things the American public expects of group monopoly. They are, in fact, not the results of monopoly. They are the results of vigorous competition in which both majors and independents take part and in which efficient business units of either sort can survive and prosper."

Prominent among the results which have thus been accomplished, it was pointed out, has been the finding of new oil reserves which make it possible "to satisfy the demand for crude oil without doing violence to conservation and robbing the future by prematurely exhausting the reservoir energy and leaving recoverable oil in the ground.

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Allowables

August Allowables Forecast Further Use of Stored Crude

Crude oil production in the United States is due to fall short of market requirements in August as it did in July, with the deficiency to be made up by withdrawals from storage, particularly in Oklahoma and Illinois.

This is the prospect indicated by allowables prescribed for August in the prorated states, which account for about 83 percent of the nation's crude output.

The August allowables of the eight states are in the aggregate 114,189 barrels (3.4 percent) under the market demand for crude from those states as estimated by the United States Bureau of Mines.

One of the states, California, has been exceeding its state allowable over 30,000 barrels daily the past month and may be expected to show similar results in August.

But that overproduction will be more than offset by underproduction in unprorated Illinois, which during the past month actually produced 51,200 barrels a day less than the amount estimated as the demand for Illinois crude in August.

For the United States as a whole, therefore, actual daily production in August likely will be somewhere around 135,000 barrels under demand, although that figure will be reduced some through increasing state allowables as new wells are completed.

It is noteworthy that the bureau was comparatively optimistic in estimating demand for crude in August, having forecast for the United States total crude requirements of 3,940,000 barrels daily, compared with 3,847,000 barrels a day in July, as allowance was made for less difficulty than originally anticipated in transporting oils from the Southwest to the East Coast. The bureau raised its estimates of demand, from July to August, as follows: from 77,000 to 80,700 barrels daily in Arkansas, from 624,800 to 641,000 in California, from 225,300 to 240,800 in Kansas, from 304,000 to 324,500 in Louisiana, from 108,600 to 112,900 in New Mexico, from 384,800 to 390,100 in Illinois, and from 1,324,000 to 1,361,600 in Texas. Oklahoma's forecast was lowered from 498,500 to 492,400 barrels, and that of Michigan from 37,200 to 36,000.

Withdrawals During July

Under the strict allowables of July, set in accordance with the very conservative estimates of demand made by the bureau because of the tanker scarcity, there were during the month material withdrawals of crude from storage in East Texas, West Texas, the Texas Gulf Coast, Northern Texas, North Louisiana and Arkansas. Crude also was taken out of storage in relatively large volume in Oklahoma and Illinois, as foreseen by the bureau, with those states unable to produce all the oil for which there was demand. Similarly, Kansas took some crude from storage, possibly in reflection of inadequacy of pipe-line facilities for handling all the

August Allowables Under Demand; Further Withdrawals of Crude From Storage Indicated for Oklahoma and Illinois

(Barrels Daily)

STATE	Bureau of Mines Estimate of Demand For July	Bureau of Mines Estimate of Demand for August	State Allowable Beginning of August	Difference of August Allowable From Demand	Percent Difference of August Allowable From Demand
Arkansas	77,000	80,700	74,428	— 6,272	— 7.7
California	624,800	641,000	610,000*	— 31,000	— 4.8
Kansas	225,300	240,800	242,800	+ 2,000	+ 0.8
Louisiana	304,000	324,500	325,081	+ 581	+ 0.2
Michigan	37,200	36,000	40,000†	+ 4,000	+11.1
New Mexico	108,600	112,900	112,900	.....	.....
Oklahoma	498,500	492,400	415,000	— 77,400	—15.7
Texas	1,324,000	1,361,600	1,355,502‡	— 6,098	— 0.4
Total 8 Prorated States	3,199,400	3,289,900	3,175,711	—114,189	— 3.4
Illinois	384,800	390,100	338,900§	— 51,200	—13.1
Other States	262,900	260,000	.....	.....	.....
Total United States	3,847,100	3,940,000	.....	.....	.....

* Recommendation of Conservation Committee of California Oil Producers.

† Estimate of actual production that will occur under prescribed regulations.

‡ Texas Railroad Commission's estimate of actual net daily production, allowing for usual under production of 3½ percent under net allowable, which at the beginning of August is calculated at 1,404,665 barrels daily. However, allowable normally increases as new wells are completed. Under August order, most Texas fields were ordered shut down August 2, 3, 9, 10, 16, 17, 23, 24, 30 and 31. Panhandle was ordered shut down August 3, 10, 17, 24 and 31.

§ Average level to which unprorated Illinois production naturally had declined for 4 weeks ended July 26.

crude that might have been taken from the wells. There were reductions in crude stocks in July also in Pennsylvania and other Eastern states, and in Ohio and Michigan. Stocks increased, however, in South Louisiana, Mississippi, New Mexico, the Rocky Mountain states and California.

In the three weeks between June 28 and July 19, crude stocks in the United States were reduced 5,351,000 barrels. Stocks of Illinois-Indiana crude were reduced 1,447,000 barrels and those of Oklahoma grade crude were lowered 871,000 barrels, while there were reductions of 427,000 barrels in North Louisiana, 401,000 in Kansas and 403,000 in Arkansas. The greatest withdrawal occurred in Texas, amounting to 3,314,000 barrels, with practically all districts showing decreases, including those of 872,000 barrels in East Texas, 1,470,000 on the Texas Gulf Coast, 92,000 in West Texas and 880,000 for the rest of the state.

In fixing the state allowable for August at 242,800 barrels daily, the Corporation Commission of Kansas authorized the highest quota so far adopted in that state and one which was within a few hundred barrels of estimated current pipe-line capacity.

Under the August proration schedule for Oklahoma, four new pools were included: namely, West Bethel with 150 barrels daily, East Cromwell (Hunton lime) with 900 barrels daily, South Dill 600 barrels, and East Tecumseh (Viola) 1050 barrels.

Pawhuska zone at Oklahoma City was removed from proration status. Cement pool, Caddo County, was granted an increase of allowable from 7000 to 9500 barrels daily. Small increases went to Avoca, Coyle, Cumberland, Romulus, and North St. Louis pools. Guthrie pool, Logan County, was cut from 3600 to 3000 barrels voluntarily by operators due to rapid decline in bottom-hole pressure, although a number of new producers were added during the month.

W. F. CRENSHAW, second lieutenant in the field artillery reserve and engineer with Delta Drilling Company, Tyler, Texas, is reporting to the San Antonio arsenal for one year's active duty. His place with Delta is being filled by Willard McSpadden.

Farish and Pew

[*Continued from page 61*]

"As a result of proration, which the industry and state governments have developed and which the federal government has aided through authorizing the interstate compact and passing the Connally Act, the wastes of competition engendered by the rule of capture have been checked and the industry has learned the technique of orderly production. These developments in the production branch of the industry have greatly strengthened the whole American economy, both in time of peace and in time of defense.

"In the transportation branch, the industry has developed its specialized and economical forms—the pipe line, the tanker, and the transport truck. By its prompt extension of crude pipe lines to newly developed oil fields, it has brought the world market to the door of all the producers. By reducing the costs of transportation, the industry has found economies which competition has passed on, partly back to the producers in the form of better prices for crude oil which encouraged new finding effort and partly forward to consumers in the form of lower prices for refined products.

"In refining, technical developments have reduced costs and increased gasoline yields. In 1928, 15.7 gallons of gasoline were obtained from a barrel of crude oil on the average; in 1938, 18.6 gallons were obtained. As a result of improved processes, the demand for gasoline can be satisfied with less drain on crude oil reserves.

"In the marketing branch of the industry, vigorous competition has led both to improved services and reduced costs."

Cook's Rejoinder

In his rejoinder, Cook refused to retreat from the position taken in his original monograph and asserted the criticism failed to offer any proof of inaccuracy "of the basic considerations I advanced to show the control of the petroleum by the majors."

"The reply claims that 'many companies, large and small, are now in vigorous competition with one another,' and offers the explanation that the majors compete 'to locate new oil fields,' and in the search for economies in refining and transporting gasoline," he said. "Since the majors have virtual control over transportation and refining facilities, as was developed in the monograph, there is no evidence of any real competition between the majors and independents.

"The comments to be found in the reply on the production chapter of the monograph are essentially only modified restatements of my findings, supplemented by an analysis of some of the economic problems covered in the chapter, but in virtually every case no specific denials of my basic conclusions are made.

"It is not denied that there exists a considerable disparity between the majors' percentage of crude oil production and their percentage of crude oil reserves, but is merely claimed that such disparity has no connection with, and does not result from, the majors control of transportation. It is a matter of record that the majors purchase over one-third of their net crude-oil requirements from independent producers. There is no free market for crude oil, since virtually all of it is sold at the producers' wells because of the majors' control of pipe lines.

"On the question of proration, I did not deny that physical waste as such should be restricted. But, as I pointed out, it must be recognized that many measures urged under the guise of conservation are not motivated by considerations of conservation. They are in effect based on stabilization and price considerations.

"There is overwhelming evidence to the effect that the economic motive is the primary aim of the majors in sponsoring proration laws. The fact that proven crude-oil reserves have been steadily increasing does not offer any argument for sponsoring proration.

"Any proration program should be viewed from the effect on the consumer welfare and the small producer. Proration does not affect the independents the same as the majors. The majors can obtain adequate supplies of crude oil, supplemented by their purchases at their own posted price, to operate their mass-production refineries at almost full capacity. On the other hand, independent refiners operate at only 50 percent of capacity on the average, owing to their lack of crude oil pipe lines and inability to obtain adequate supplies of crude oil from their own wells and from other nearby sources, because of proration restrictions."

AAPG Sets Convention for Denver, April 21-24

The American Association of Petroleum Geologists has scheduled its twenty-seventh annual convention for April 21-24, 1942, at Denver, Colorado. The Cosmopolitan Hotel has been chosen as convention headquarters.

Cosden Completes Outlet for Oklahoma's East Tecumseh

Cosden Pipe Line Company has completed a 13-mile, 4-inch crude oil line from its Earlsboro station to the East Tecumseh pool, Pottawatomie County, Oklahoma.

Pennsylvania and New York Become Compact Members

Governor Arthur H. James on June 23 signed legislation authorizing Pennsylvania's membership in the Interstate Oil Compact Commission, and two days later Governor Herbert Lehman signed New York into membership, invoking legislation previously approved that authorized New York's membership if Pennsylvania took similar action.

William R. Davis Dies Of Heart Attack in Houston

William R. Davis, 52, international oil operator, died August 1 in Houston following a heart attack. He launched his first oil venture in 1913, a small company in Oklahoma; served with the AEF in France during World War I, returning to Tulsa after the war to open offices as an oil broker. Later years brought formation of W. R. Davis, Inc., and other domestic and foreign enterprises on which were pyramided fortunes in oil, mining, rubber and cheese.

Davis served as a go-between for Henry L. Doherty in a merger involving Cities Service Oil Company and Arkansas Natural Gas Company, a Benedum-Trees interest. He interviewed and gained support of Mussolini, Primo De Rivera, King Alfonso and President Von Hindenburg for a gigantic colonization program in Peru which collapsed with the overthrow of that country's President Leguia. He and his associates were sued in British courts on charges of conspiracy to defraud a Danish oil company, and, although an appellate court reversed a lower court decision, clearing the group of all charges, the action is considered to have reduced Davis' prestige and reputation in the eyes of British business. Following the Mexican expropriation, he entered into a program with the Mexican government for financing, engineering and supervising modernization of Mexican refining facilities which were paid for in oil.

In 1939, he proposed to deliver 17 German Junkers airplanes to Mexico in payment for oil, but the deal fell through when the United States State Department protested to the Mexican government. Davis said he bought the planes for sale to the Spanish Loyalists, but that the fall of Barcelona prevented their delivery.

Davis contributed liberally to the 1936 Democratic national campaign, and switched his support to the Republican party in 1940.

His holdings included New York City Holding Company; Crusader Petroleum Industries of England; Texas Crusader Oil Company and Louisiana Crusader Oil Company, predecessors of the present Texas Progress Oil Company; Crusader Petroleum, Inc., and substantial interests in Irish National Refining Company, Dublin; Europaische Tankglager & Transportag, of Germany; a refinery at Hamburg; Scandotank Company, of Sweden; an oil terminal at Malmo; distributing facilities throughout Sweden, Norway and Denmark, and storage and distributing facilities in Finland serving Lithuania, Esthonia and Latvia.

WILLIAM R. DAVIS

Present when Pennsylvania's Governor Arthur H. James signed legislation bringing the state into membership of the Interstate Oil Compact Commission were, front, row: LeRoy E. Chapman, state senator and co-sponsor of the bill, Warren; Charles L. Orr, commission secretary, Oklahoma City; J. C. Martin, secretary, Bradford District, Pennsylvania Oil Producers Association, Bradford, and Parker L. Melvin, producer, Bradford: second row; Harry Botsford, associate secretary, Associated Petroleum Industries of Pennsylvania, Harrisburg, and Hugh Grant, president, Bradford District, Pennsylvania Oil Producers Association, Bradford.

Study New East Texas Salt-Water Disposal Plan

A new plan for handling salt-water disposal among smaller operators in the East Texas field was presented at a hearing before the Texas Railroad Commission last week. Under the program, a salt-water well would be drilled outside the boundaries of the field, and water collected from several wells, the owners of which would pay a rental of $1 a day to the operator of the injection well.

The plan had the endorsement of the State Game, Fish and Oyster Commission and the State Health Department.

The application was made by Delta Drilling Company, which owns some property producing water on the west edge of the field. The program provides for drilling the well, and connection to it of wells producing 50 percent salt water or more. To offset the daily rental of $1, each well connected to the disposal system would be allowed to produce one barrel of oil extra each day. A maximum of 40 barrels extra oil could be assigned to the wells connected to a particular injection well.

If the program is applied generally along the west side of the field, much of the water now being turned into pits and disposed of otherwise could be returned to the Woodbine. Engineers estimate that the system proposed would cost about $27,500. The income would be at the rate of about $900 per month, and the system should be paid out in approximately 2½ years.

Stanolind Oil & Gas Company objected to the plan, fearing that under the system operators would be less inclined to work over wells producing water, especially if they found it less expensive to tie on to one of the salt-water systems. The company urged that all operators included in such a system share in the expense and the operating costs.

Award Contract for Aero Map for Defense Pipe Line

Aero Exploration Company, Tulsa, has been awarded contract to air-map the route of a $70,000,000 defense pipe line from Longview, Texas, to Bayonne, New Jersey. A mosaic map is to be taken at an elevation of 13,750 feet by two army planes.

The line of 16-, 20- and 24-inch pipe will be 1,560 miles long and have a daily capacity of 250,000 barrels of oil, providing additional outlets for Kansas and Oklahoma; North, West, East and Panhandle areas of Texas; Nebraska and Wyoming.

Prices Generally Unchanged Despite Strong Markets

Markets for crude oil and petroleum products naturally remain strong under the present general boom conditions and in reflection of the scarcity of shipping facilities between the Southwest and the East Coast. But under the restraining influence of the government's price control agency, there were relatively few changes in prices last week outside of additional marking up of quotations on lubricants in the Mid-Continent and some improvement of natural gasoline.

Bright stocks generally were priced 1 cent a gallon higher by Mid-Continent refiners, as strong demand was encountered, and neutral oils worked up ¼ to ¾ cent a gallon in the same region.

Prices of lubricants in Western Pennsylvania were generally unchanged, and there was a protest from the Consumers' Cooperative Association at Kansas City that Pennsylvania neutral oil prices had been advanced until they were "out of line." The association advocated a price ceiling of something less than 30 cents a gallon on Pennsylvania neutrals, as well as federal legislation vesting in the Office of Price Administration and Civilian Supply full authority to act decisively in control of prices. Western Pennsylvania refiners currently are quoting 31 to 36 cents a gallon for No. 3 color neutral oil, 150 viscosity at 70°, 25 pour test, the same as a week ago. Some grades of neutrals are quoted up to 39 cents.

Western Pennsylvania refiners reported continued heavy demand for bright stocks, and there was considerable inter-refinery trading as well as fulfilling of contracts, as inventories continued to diminish sharply. However, quotations remained generally unchanged.

On the Atlantic Coast, there was heavy demand for all petroleum products, as concern over the threatened fall-winter shortage increased, but suppliers generally were quoting the same prices as previously.

On the Gulf Coast, too, quotations for all products continued mostly unchanged, and refiners generally were willing to sell at the established prices.

In the Mid-Continent, there was heavy demand for gasoline, on the part of some refiners as well as the trade, as such plant owners sought to obtain supplies to supplement their own production. Natural gasoline was advanced ⅛-cent a gallon in the Group 3 marketing region, to 3¾ cents, and the quotations for that product in the Breckenridge, Texas, market continued to range from 3¼ to 3½ cents. Mid-Continent refiners advanced quotations generally 1 cent a gallon on low pour bright stocks, and prices for some grades of No. 3 color neutrals were increased ¼- to ½-cent, as shipments continued heavy in reflection of strong demand. From Tulsa it was reported that a 57-tank car train-load of lubricating oil, sent from an Oklahoma refinery, had reached its destination in New Jersey within four days and two hours.

A particularly tight market for gasoline was reported in the Middle West, but quotations were generally unchanged. Some refiners in the district reported they were reducing storage that already was extremely low.

Of particular interest in the Southwest was the information released early last week that Gulf Coast refiners had received awards totaling 4,710,000 barrels out of 9,835,000 barrels purchased by the United States Navy with lease-lend funds for British use. The other 5,125,000 barrels will come from Aruba, Dutch West Indies. The Gulf Coast contracts involved $10,523,210, and the Aruba business $10,088,500.

"Oil for Britain" Day in Texas Indefinitely Postponed

The Texas Railroad Commission is expected to set a new date for producing "Oil for Britain" under the plan advocated by John F. Camp. The commission had set August 10 as the date for producing the oil, but found that accounting problems were too involved to permit completion of the plans on that date.

Meanwhile, details of the program are being worked out, and several operators have indicated to Camp that they will be glad to join in the program. Several companies are withholding final approval until they are advised exactly as to the method of delivery.

Gasoline Shipments Normal; Fuel Oil Movement Lagging

Despite the extraordinary difficulties with which the industry has been confronted in moving oils from the Southwest to the East Coast, actual shortage of gasoline in the latter region still is being averted, and stocks of that product in the area are practically the same as at this time last year.

It is indicated, however, that this desirable gasoline situation is being achieved partly at the expense of heating oil and industrial grade fuel oils, stocks of which are not being increased normally for this time of the year on the Atlantic coast.

The present inventory of light fuel oil on the East Coast is a million barrels smaller than that held a year ago, whereas demand has increased materially, with installation of numerous new oil burners in homes and other buildings.

East Coast stocks of residual fuel oil are about 1½ million barrels smaller than a year ago, and consumption of that product likewise is substantially greater than at this time last year, in reflection of the high rates of industrial activity.

In spite of the transfer of about 50

Trends of Operations and Changes in Stocks

Figures are from American Petroleum Institute weekly reports, except those on crude stocks, which are from Bureau of Mines weekly reports

WEEK ENDED	Crude Oil Production (Barrels Daily)	Crude Runs to Stills (Barrels Daily)	Crude Oil Stocks (Barrels)	Gasoline Stocks (Barrels)	FUEL OIL STOCKS	
					Gas Oil & Dist. Fuels	Residual Fuel Oil
1938:						
November 12	3,243,250	3,180,000	273,394,000	[6]67,551,000	34,175,000	120,491,000
December 10	3,245,100	3,150,000	[2]269,509,000	68,687,000	32,068,000	118,711,000
1939:						
April 22	3,526,700	3,280,000	277,156,000	[2]87,769,000	21,085,000	105,035,000
April 29	3,568,200	3,405,000	278,440,000	86,794,000	[7]25,844,000	[7]108,409,000
May 6	3,580,900	3,275,000	[2]278,607,000	86,216,000	26,167,000	108,597,000
August 5	[1]3,909,400	3,445,000	268,982,000	76,431,000	35,601,000	114,512,000
August 26	[5]1,690,800	3,475,000	246,982,000	73,475,000	37,722,000	116,237,000
October 7	3,435,850	3,505,000	231,564,000	[6]71,152,000	38,549,000	114,397,000
October 21	3,771,550	[2]3,650,000	[3]229,127,000	72,122,000	39,358,000	115,060,000
1940:						
January 27	3,611,600	3,470,000	237,339,000	87,914,000	27,407,000	103,015,000
February 24	3,732,100	3,490,000	240,836,000	96,719,000	25,390,000	103,419,000
March 30	3,841,250	3,585,000	250,561,000	101,370,000	23,778,000	105,081,000
April 20	3,858,550	3,535,000	254,881,000	[1]102,817,000	24,779,000	103,323,000
April 27	3,845,250	3,555,000	256,670,000	102,452,000	24,997,000	102,552,000
May 25	3,835,650	3,580,000	259,330,000	100,297,000	28,356,000	104,015,000
June 22	3,846,450	[2]3,690,000	260,891,000	97,276,000	32,751,000	104,683,000
June 29	3,639,550	3,625,000	262,059,000	95,142,000	33,590,000	104,486,000
July 27	3,690,400	3,555,000	262,579,000	90,173,000	38,981,000	105,924,000
August 31	3,501,350	3,575,000	265,865,000	85,393,000	44,766,000	108,774,000
September 28	3,799,950	3,600,000	263,609,000	82,273,000	47,986,000	108,450,000
October 26	3,640,300	3,565,000	262,746,000	80,891,000	[4]48,893,000	108,475,000
November 9	3,584,200	3,510,000	261,631,000	[6]79,847,000	48,408,000	107,687,000
November 30	3,335,050	3,510,000	262,679,000	80,284,000	46,212,000	106,618,000
December 28	3,385,500	3,585,000	261,552,000	83,274,000	42,266,000	102,620,000
1941:						
January 25	3,599,100	3,625,000	260,093,000	88,762,000	39,039,000	100,297,000
February 22	3,629,650	3,590,000	261,783,000	95,812,000	34,381,000	98,631,000
March 1	3,632,250	3,585,000	263,176,000	96,917,000	33,725,000	97,510,000
March 29	3,746,550	3,625,000	266,187,000	[2]99,727,000	29,949,000	96,152,000
April 26	3,726,850	3,675,000	266,149,000	96,647,000	29,543,000	94,732,000
May 31	3,786,100	3,699,000	262,356,000	93,845,000	33,524,000	92,757,000
June 7	3,816,700	3,880,000	260,956,000	92,522,000	34,305,000	93,384,000
June 14	3,822,750	3,755,000	260,464,000	92,478,000	35,060,000	93,182,000
June 21	3,857,600	3,845,000	259,142,000	91,916,000	35,736,000	93,281,000
June 28	3,847,250	3,930,000	259,399,000	91,461,000	35,732,000	92,896,000
July 5	3,658,200	3,745,000	258,070,000	90,218,000	36,925,000	92,635,000
July 12	3,870,750	[7]4,090,000	255,567,000	89,561,000	37,812,000	92,699,000
July 19	3,676,050	3,805,000	254,048,000	87,920,000	38,732,000	93,091,000
July 26, 1941	3,869,950	3,920,000	.....	86,945,000	40,197,000	93,855,000
July 26, 1940	3,690,400	[8]3,481,000	[4]261,596,000	89,937,000	38,284,000	105,894,000
Change in past year	+4.8%	+12.6%	−2.9%	−3.3%	+4.9%	−11.3%

[1] All time peak. [2] Peak for year. [3] Lowest since April, 1922. [4] Stocks, July 20, 1940.
[5] Lowest since October, 1922, due to shut down of six Mid-Continent states. [6] Lowest for year
[7] Prior to April 29, 1939, data did not include stocks at terminals, in transit, etc., except in California
[8] July, 1940, daily average.

tankers to British service two months ago, there has been since that time a small net addition to the stocks of gasoline on the East Coast, whereas a substantial reduction would have been normal. Between May 24 and July 26 of this year, the East Coast stocks of gasoline were increased 398,000 barrels, from 21,157,000 to 21,555,000 barrels. Between May 25 and July 27 last year, the stocks were reduced 1,772,000 barrels, from 23,618,000 to 21,846,000 barrels. In the week ended July 26 of this year, there was a withdrawal of 377,000 barrels from storage, and in the corresponding week last year there was a reduction of 208,000 barrels.

Shipments to East Coast Were Up

The contra-seasonal additions to East Coast gasoline stocks have been achieved partly through greater-than-normal shipment of the product from the Gulf Coast, as evidenced by the fact that stocks in the latter area were reduced 2,893,000 barrels in the past two months, compared with a reduction of 1,794,000 barrels in the corresponding period last year.

For the whole United States, gasoline stocks totaling 86,945,000 barrels, are about 3,000,000 barrels smaller now than a year ago, but 2,000,000 barrels of the reduction has taken place in California. The net decrease of a million barrels east of California has reflected primarily the Texas Gulf Coast withdrawal, although the East Coast and Appalachian region stocks also are down somewhat. In the Middle West, the

Wholesale Prices of Refined Products in Principal Markets

	Range Last Week (Cents a gal.)		Changes from Week Before	
REFINED GASOLINE				
Oklahoma Refineries:				
60 Octane and Under	5¼	5⅝	...	...
63-66 Octane	5⅝	6	...	...
72-74 Octane	6	6⅜	...	...
80-82 Octane, Ethyl	6½	7¼	...	...
Mid-Western Tank Car:				
60 Octane and Under	5⅛	5⅝	...	...
63-66 Octane	5⅝	6	...	...
72-74 Octane	6	6⅜	...	...
80-82 Octane, Ethyl	7⅜	7⅜	...	...
New York Harbor:				
68-70 Octane	8	8¼	...	...
72-74 Octane	8	8½	...	...
Min. 80 Octane, '39 Research	8½	9	...	...
Gulf Coast:				
60 Octane unleaded	5⅛	5⅝	...	...
65 Octane unleaded	5½	5⅞	...	...
68 Octane unleaded	6	6	...	...
70 Octane unleaded	6	6¼	...	...
72-74 Octane leaded	6	6¼	...	...
Min. 80 Octane, '39 Research	6¼	6½	...	...
NATURAL GASOLINE				
Grade 26-70:				
F.O.B. Group 3	3⅝	3¾	...	+⅛
F.O.B. Breckenr'ge, Tex.	3¼	3½	...	...
KEROSENE				
Oklahoma Refineries:				
41-43 water white	4⅜	4¾	...	...
42-44 water white	4½	4⅞	...	...
Mid-Western Tank Car:				
41-43 water white	4⅜	4¾	...	...
42-44 water white	4½	4⅞	...	...
New York Harbor	5¼	5½	...	...
RANGE OIL				
At Oklahoma Refineries	4	4⅜	...	...
In Mid-Western Market Group 3, basis	4	4	...	...
LIGHT FUEL OILS				
Oklahoma Refineries:				
No. 1 straw	3½	4¼	...	...
No. 3	3⅜	3⅝	...	...
Mid-Western Tank Car:				
No. 1 white	3¾	4⅛	...	...
No. 3	3¼	3½	...	...
New York Harbor:				
No. 1	5¼	5½	...	...
No. 3	4⅞	4⅞	...	...

	Range Last Week (Per Bbl.)		Changes from Week Before	
HEAVY FUELS				
Oklahoma Refineries:				
No. 6	$0.80	$0.85	...	...
Mid-Western Tank Car:				
No. 5	.85	.85	...	...
No. 6	.85	.87½	...	...
New York Harbor:				
No. 5	1.65	1.75	...	...
No. 6	1.35	1.35	...	—.10
BUNKER C FUEL OIL (Per barrel, ships' bunkers)				
Gulf Coast	$ .85	$ .95	...	...
New York Harbor	1.35	1.35	...	—.10
DIESEL OIL (Per barrel, ships' bunkers)				
Gulf Coast	$1.55	$1.55	...	...
New York Harbor	2.00	2.00	...	...
Los Angeles Basin 27 gravity	1.05	1.26	—.05	...
LUBRICATING OIL (Cents a gal.)				
Oklahoma Refineries:				
Bright Stock, 150-160 viscosity at 210°, 10-25 pour test	20½	21½	+1	+1
Neutral oil pale No. 3 Color, 150 viscosity at 100°, 0-10 pour test	11¾	12½	+¼	+¾
Western Pennsylvania:				
Bright Stock, 145-155 viscosity at 210°, 25 pour test	25	26	...	...
Neutral Oil No. 3 Color, 150 viscosity at 70°, 25 pour test	31	36	...	...

Extra Shut Down Day in Texas Causes Production Drop

Estimates Compiled by The OIL WEEKLY

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand (July)	State Allowable (Barrels Daily in July)	BARRELS DAILY FOR WEEK ENDED July 26	BARRELS DAILY FOR WEEK ENDED Aug. 2
TEXAS—				
Texas Panhandle	.....	.....	82,800	81,300
North Texas	.....	.....	101,300	99,700
West Central Texas	.....	.....	31,200	30,100
West Texas	.....	.....	265,000	220,550
East Central Texas	.....	.....	83,800	79,650
East Texas Field	.....	.....	366,650	299,900
South Texas	.....	.....	216,200	179,900
Texas Gulf Coast	.....	.....	284,650	243,800
Total Texas	1,324,000	1,300,749§	1,431,600	1,234,900
CALIFORNIA—				
Long Beach	.....	.....	38,800	38,700
Midway-Sunset	.....	.....	49,300	46,900
Kettleman Hills	.....	.....	36,000	40,500
Wilmington	.....	.....	85,400	83,800
Others	.....	.....	430,000	428,300
Total California	624,800	603,000*	639,500	638,200
OKLAHOMA—				
Oklahoma City	.....	.....	87,850	88,250
Seminole Area	.....	.....	107,775	108,200
Others	.....	.....	219,825	220,800
Total Oklahoma	498,500	415,000	415,450	417,250
ILLINOIS—				
Salem	.....	.....	82,800	80,500
Louden	.....	.....	62,100	60,200
Centralia	.....	.....	9,500	9,600
Other New Pools	.....	.....	166,500	173,800
Old Pools	.....	.....	11,400	10,700
Total Illinois	384,800	.....	332,300	334,800

DISTRICT OR STATE	Bureau of Mines Estimate of Daily Demand (July)	State Allowable (Barrels Daily in July)	BARRELS DAILY FOR WEEK ENDED July 26	BARRELS DAILY FOR WEEK ENDED Aug. 2
LOUISIANA—				
North Louisiana	.....	.....	74,700	77,800
South Louisiana	.....	.....	239,200	240,900
Total Louisiana	304,000	315,675	313,900	318,700
KANSAS	225,300	237,400	241,950	235,500
NEW MEXICO	108,600	108,600	108,000	110,400
EASTERN STATES—				
Pennsylvania Grade	49,300	.....	72,600	72,200
Others, Eastern	52,800	.....	18,500	18,600
Total Eastern States	102,100	.....	91,100	90,800
MOUNTAIN STATES—				
Wyoming	88,400	.....	84,200	84,100
Montana	19,900	.....	19,500	19,400
Colorado	5,100	.....	3,850	3,750
Total Mountain States	113,400	.....	107,550	105,350
MICHIGAN	37,200	38,000†	39,100	40,400
INDIANA	22,200	.....	21,100	21,000
ARKANSAS	77,000	73,738	72,650	73,100
MISSISSIPPI	21,000	.....	49,800	46,400
NEBRASKA	4,200	.....	5,300	5,200
‡Total 8 Prorated States	3,199,400	3,092,162	3,262,150	3,068,450
Total United States	3,847,100	.....	3,869,300	3,672,000

* Recommendation of Conservation Committee of California Oil Producers.
† Estimate of actual production under prescribed regulations, which do not fix a definite state total allowable.
‡ Texas, California, Oklahoma, Louisiana, Kansas, New Mexico, Arkansas, Michigan.
§ Texas Railroad Commission's estimate of actual net daily production, allowing for usual under production of 3½ percent under net allowable, which at the beginning of July is calculated at 1,347,926 barrels daily. However, allowable normally increases as new wells are completed. Under July order, most Texas fields were ordered shut down July 4, 5, 6, 12, 13, 16, 19, 20, 26, 27 and 31. Panhandle was ordered shut down July 5, 12, 19, 26 and 31.

CRUDE OIL PRICES IN CALIFORNIA

Prices per barrel in field, posted by Standard Oil Company of California, effective May 23, 1941
All gravities above those quoted take highest price offered in that field

Gravity	Signal Hill (Long Beach)	Wilmington	El Segundo	Seal Beach	Huntington Beach	Inglewood	Playa del Rey	Olinda, Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Newhall, Kern River, Kern Front, McKittrick, Round Mountain	Greeley, Canal, Wasco	Coles Levee	Mountain View	Elk Hills, Buena Vista Hills, Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Kettleman Hills	Elwood Terrace
14-14.9	....	$0.68	....	....	$0.71	....	....	$0.70	....	$0.70	$0.70	$0.70	$0.72	....	....	$0.73	....	....	....	$0.73	$0.73	$0.73	....	....
15-15.9	....	.71	....	....	.75	$0.76	....	.72	....	.72	.71	.72	.72	....	....		....	....	....	.73	.73	.73	....	....
16-16.9	....	.74	$0.79	....	.79	.79	....	.75	....	.74	.73	.75	.72	....	....		....	....	....	.73	.75	.73	....	....
17-17.9	....	.78	.82	....	.82	.82	....	.78	....	.77	.76	.78	.72	....	....		....	....	....	.75	.78	.73	....	....
18-18.9	$0.80	.82	.86	....	.86	.85	....	.81	....	.80	.79	.82	.74	....	....		....	....	....	.78	.81	.73	....	....
19-19.9	.84	.86	.90	....	.89	.88	....	.85	....	.83	.82	.85	.77	....	....	Wheeler Ridge	....	....	$0.73	.81	.84	.75	....	....
20-20.9	.88	.90	.94	....	.93	.92	$0.80	.88	....	.86	.85	.89	.80	....	....		....	....	.76	.85	.87	.77	....	....
21-21.9	.92	.94	.98	....	.96	.95	.84	.91	....	.89	.89	.92	.84	....	....		....	....	.79	.90	.90	.80	....	....
22-22.9	.96	.98	1.02	$0.88	.99	.98	.87	.95	....	.93	.93	.96	.87	....	....	$0.76	....	....	.83	.94	.93	.83	....	....
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	....	.98	....	.97	.98	1.00	.91	....	....	.80	....	....	.87	.99	.96	.86	....	....
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	F.O.B.	1.01	....	1.01	1.02	1.03	.94	$0.99	....	.83	....	....	.90	1.03	.99	.89	....	....
25-25.9	1.07	1.09	1.10	1.01	1.08	1.07	Our	1.04	....	1.05	1.06	1.07	.98	1.02	....		....	....	.94	1.07	1.01	.92	....	....
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	Pipe	1.08	....	1.09	1.10	1.11	1.01	1.06	....	....	....	....	.97	1.11	1.04	.95	....	....
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	Line	1.11	....	1.13	....	1.15	1.05	1.10	$1.04	....	....	....	1.01	1.15	1.07	.98	....	....
28-28.9	1.18	1.18	1.17	1.15	1.17	1.17	....	1.14	....	1.17	....	....	1.08	1.13	1.08	....	....	....	1.04	1.19	1.10	1.00	....	....
29-29.9	1.20	1.21	....	1.19	1.20	1.20	....	....	$1.17	....	....	....	1.12	1.17	1.12	....	....	....	1.07	1.24	1.13	1.02	....	....
30-30.9	1.23	1.24	....	....	1.23	1.22	....	....	1.21	....	....	....	1.15	1.21	1.15	....	$1.01	$1.09	1.10	1.28	1.16	1.04	....	F.O.B
31-31.9	....	....	....	....	....	1.24	....	....	1.25	....	....	....	1.19	1.24	1.19	....	1.04	1.12	1.14	....	....	1.06	....	Ship
32-32.9	....	....	....	....	....	....	....	....	1.29	....	....	....	1.23	1.28	1.23	....	1.07	1.14	1.17	....	....	1.09	....	....
33-33.9	....	....	....	....	....	....	....	....	1.32	....	....	....	1.27	....	1.26	....	1.10	1.17	....	....	....	1.11	....	$1.22
34-34.9	....	....	....	....	....	....	....	....	1.36	....	....	....	1.31	....	1.30	....	1.13	1.20	....	....	....	1.13	....	1.25
35-35.9	....	....	....	....	....	....	....	....	....	....	....	....	1.35	....	....	....	1.16	1.22	....	....	....	....	$1.23	1.28
36-36.9	....	....	....	....	....	....	....	....	....	....	....	....	1.39	....	....	....	1.19	1.25	....	....	....	....	1.26	....
37-37.9	....	....	....	....	....	....	....	....	....	....	....	....	1.43	....	....	....	1.22	....	....	....	....	....	1.29	....
38-38.9	....	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	....	1.25	....	....	....	....	....	....	....
39-39.9	....	....	....	....	....	....	....	....	....	....	....	....	1.51	....	....	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	....	....	....	....	....	....	....	....	....	1.53	....	....	....	....	....	....	....	....	....	....	....

Eastern States Crude Oil Prices

FIELD—	Flat Price	Date Posted
Bradford-Allegany	$2.75	6-18-41
Sw. Pa. Pipe Line	2.40	6-18-41
Eureka Pipe Line, W. Va.	2.34	6-18-41
Corning Grade, Ohio	1.31	5-27-41
Buckeye Crude, Ohio	2 30	6-18-41

Major Crude Oil Price Changes

	Penna. Grade	Mid-Cont. (36 Gr.)	Calif. (26 Gr.)
Jan. 9, 1936	.....	Up 10	.....
Jan. 13, 1936	Up 15	.....	.....
Mar. 7, 1936	.....	.....	Up *18
Dec. 28, 1936	Up 12	.....	.....
Jan. 28, 1937	.....	Up 12	.....
Feb. 24, 1937	Up 10	.....	.....
June 7, 1937	Up 15	.....	.....
Sept. 1, 1937	Cut 22	.....	.....
Oct. 12, 1937	Cut 25	.....	.....
Dec. 1, 1937	Cut 15	.....	.....
Mar. 7, 1938	Cut 17	.....	.....
June 13, 1938	Cut 25	.....	.....
Sept. 1, 1938	Cut 12	.....	.....
Oct. 11, 1938	.....	Cut 20	.....
Jan. 21, 1939	Up 12	.....	.....
Feb. 2, 1939	Up 8	.....	.....
Mar. 6, 1939	Up 12	.....	.....
Oct. 6, 1939	Up 25	.....	.....
Nov. 1, 1939	Up 15	.....	.....
Dec. 1, 1939	Up 10	.....	.....
Jan. 1, 1940	Up 25	.....	.....
Feb. 1, 1940	.....	.....	Cut *7
May 22, 1940	Cut 25	.....	.....
June 18, 1940	Cut 25	.....	.....
July 12, 1940	Cut 25	.....	.....
Aug. 28, 1940	Cut 15	.....	.....
Nov. 12, 1940	Up 15	.....	.....
Dec. 17, 1940	Up 15	.....	.....
Jan. 27, 1941	Up 15	.....	.....
April 1, 1941	.....	Up 5	.....
April 23, 1941	Up 10	.....	.....
April 24, 1941	.....	.....	Up *6
May 19, 1941	.....	Up 10	.....
May 21, 1941	Up 15	.....	.....
May 22, 1941	.....	.....	Up *6
June 18, 1941	Up 20	.....	.....

* Signal Hill 26 gravity.

Mid-Continent and the Rocky Mountain regions, gasoline inventories are larger than at this time last year.

These figures on gasoline stocks are indicated from the American Petroleum Institute's latest statistics, covering the week ended July 26.

United States stocks of gas oil and distillate fuel, at 40,197,000 barrels as of July 26, were more than a million barrels greater than a year previously, but the increase was accounted for largely by a gain of about that amount in California. On the East Coast, the stocks totaled only 12,389,000 barrels, compared with 13,415,000 a year before. In the two months from May 24 to July 26 of this year, the inventory on the East Coast has been increased 3,267,000 barrels, but in the similar period, from May 25 to July 27 last year, there was an addition of 6,197,000 barrels. The build-up in the past two months has been, therefore, 3,000,000 barrels smaller than that in the like period last year. In the week ended July 26, 1941, however, there was an increase of 878,000 barrels, compared with one of 955,000 barrels in the corresponding week last year.

On the Texas Gulf Coast, stocks of light fuel oil are about a million barrels larger than a year ago, but two months ago they were two million barrels above a year previously, the inventory having been increased only 886,000 barrels in the past two months, against an addition of 1,756,000 barrels in the like period last year. These figures indicate that this product has been turned out at Coastal Texas refineries only in volumes commensurate with the subnormal available tanker facilities for moving it to the East Coast. In the Middle West and the Mid-Continent, additions of light fuel oil to storage have been about the same as last year.

Stocks of residual fuel oil in the United States totaled 93,855,000 barrels on July 26, and were 12,000,000 barrels (11 percent) smaller than a year before. However, the large reduction has taken place almost wholly in California, where stocks now total 65,194,000 barrels, compared with 77,470,000 a year ago. On the East Coast, stocks of the heavy oils totaled 8,972,000 barrels July 26, compared with 10,460,000 a year before. In the past two months, the stocks in the area have been increased only 505,000 barrels, compared with an addition of 2,345,000 barrels in the like period last year.

Concurrently with the subnormal build-up on the East Coast, there has been a backing up of the heavy oils in storage on the Texas Gulf Coast, present stocks in the latter area being 2,000,000 barrels larger than a year ago (now 8,149,000 barrels, against 6,081,000 at this time last year). In the past two months, the addition was 1,174,000 barrels, compared with one of 527,000 barrels in the like period last year.

Outside California, the East Coast and the Texas Gulf Coast, stocks of residual fuel oil are generally about the same as a year ago.

Growing Domestic Demand Tempers Japan Market Loss

While full clarification of the United States State Department's course of future action on licensing of oil exports to Japan must be had before definite conclusions can be drawn, it appears the Pacific Coast industry has lost its principal Pacific foreign customer. The downward trend of exports to Japan over the past two years, however, together with the sharp upward swing of domestic requirements in the territory, will combine to temper the effect of a ban on Japanese shipments.

Data supplied by the Bureau of

GRAVITY-SCALE CRUDE OIL PRICES IN MID-CONTINENT FIELDS

Posted in most instances between May 19 and May 21, 1941

GRAVITY	Oklahoma-Kansas		North Louisiana-Arkansas					Inland Texas and New Mexico			South Texas		Texas Gulf Coast			Louisiana Gulf Coast							
	Stanolind, Gulf, Texas, Skelly, Barnsdall, Tidewater, Sinclair, Phillips	Carter, Magnolia, Shell	[1]Rodessa, etc.	[2]Champagnolle, etc	Bunkie, Eola, Olla, (by Standard)	Lisbon, La. (by Gulf)	[3]Atlanta, Buckner, etc., Ark.	North and West Central Texas	[4]Eastern Texas	West Texas, [17]Panhandle, New Mexico	[5]Refugio Type	[6]Mirando Type	[7]Gulf Coast	[8]Anahuac Type	[9]Dickinson Type	[10]Gulf Coast	[11]Standard of La.	[12]Texas Co.	[13]Texas Co.	[14]Magnolia Pet. Co.	[15]Shell Oil Co.	Jennings (by Gulf)	[16]Rocky Mt. Area (Salt Creek, etc.)
17-17.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	$0.94	....	....	....
18-18.9	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....	.96	....	....	....
19-19.9	....	....	....	....	....	....	....	....	$0.80	$0.70	$1.08	$1.03	$1.06	$0.98	$0.93	$1.06	....	....	....	.98	$0.99	....	....
20-20.9	$0.85	$0.75	....	....	....	....	$0.68	$0.78	.82	.72	1.10	1.05	1.08	1.00	.95	1.08	$0.90	....	....	1.00	1.01	....	....
21-21.9	.87	.78	....	....	....	....	.70	.80	.84	.74	1.12	1.07	1.10	1.02	.97	1.10	.92	....	....	1.02	1.03	....	....
22-22.9	.89	.81	....	....	....	....	.72	.82	.86	.76	1.14	1.09	1.12	1.04	.99	1.12	.94	....	....	1.05	1.05	....	....
23-23.9	.91	.84	....	....	....	....	.74	.84	.88	.78	1.16	1.11	1.14	1.06	1.01	1.14	.96	....	....	1.08	1.07	....	....
24-24.9	.93	.87	$0.88	$0.86	$0.98	....	.76	.86	.90	.80	1.18	1.13	1.16	1.08	1.03	1.16	.98	....	....	1.11	1.09	....	....
25-25.9	.95	.90	.90	.88	1.00	....	.78	.88	.92														
									.97	.82	1.20	1.15	1.18	1.10	1.05	1.18	1.00	....	....	1.14	1.11	....	....
26-26.9	.97	.93	.92	.90	1.02	....	.80	.90	.99	.84	1.22	1.17	1.20	1.12	1.07	1.20	1.02	....	....	1.17	1.13	....	....
27-27.9	.99	.96	.94	.92	1.04	$0.81	.82	.92	1.01	.86	1.24	1.19	1.22	1.14	1.09	1.22	1.04	....	....	1.19	1.15	....	....
28-28.9	1.01	.99	.96	.94	1.06	.83	.84	.94	1.03	.88	1.26	1.21	1.24	1.16	1.11	1.24	1.06	$1.06	....	1.21	1.17	....	$0.96
29-29.9	1.03	1.02	.98	.96	1.08	.85	.86	.96	1.05	.90	1.28	1.23	1.26	1.18	1.13	1.26	1.08	1.08	....	1.23	1.19	....	.98
30-30.9	1.05	1.05	1.00	.98	1.10	.87	.88	.98	1.07	.92	1.30	1.25	1.28	1.20	1.15	1.28	1.10	1.10	$1.05	1.25	1.21	....	1.00
31-31.9	1.07	1.07	1.02	1.00	1.12	.89	.90	1.00	1.09	.94	1.32	1.27	1.30	1.22	1.17	1.30	1.12	1.12	1.07	1.27	1.23	$1.07	1.02
32-32.9	1.09	1.09	1.04	1.02	1.14	.91	.92	1.02	1.11	.96	1.34	1.29	1.32	1.24	1.19	1.32	1.14	1.14	1.09	1.29	1.25	1.09	1.04
33-33.9	1.11	1.11	1.06	1.04	1.16	.93	.94	1.04	1.13	.98	1.36	1.31	1.34	1.26	1.21	1.34	1.16	1.16	1.11	1.31	1.27	1.11	1.06
34-34.9	1.13	1.13	1.08	1.06	1.18	.95	.96	1.06	1.15	1.00	1.38	1.33	1.36	1.28	1.23	1.36	1.18	1.18	1.13	1.33	1.29	1.13	1.08
35-35.9	1.15	1.15	1.10	1.08	1.20	.97	.98	1.08	1.17	1.02	1.40	1.35	1.38	1.30	1.25	1.38	1.20	1.20	1.15	....	....	1.15	1.10
36-36.9	1.17	1.17	1.12	1.10	1.22	....	1.00	1.10	1.19	1.04	1.42	1.37	1.40	1.32	1.27	1.40	1.22	1.22	1.17	....	....	1.17	1.12
37-37.9	1.19	1.19	1.14	1.12	1.24	....	1.02	1.12	1.21	1.06	1.44	1.39	1.42	1.34	1.29	1.42	1.24	....	1.19	....	....	1.19	1.14
38-38.9	1.21	1.21	1.16	1.14	1.26	....	1.04	1.14	1.23	1.08	1.46	1.41	1.44	1.36	1.31	1.44	1.26	....	1.21	....	....	1.21	1.16
39-39.9	1.23	1.23	1.18	1.16	1.28	....	1.06	1.16	1.25	1.10	1.48	1.43	1.46	1.38	1.33	1.46	1.28	....	1.23	....	....	1.23	1.18
40 & Up	1.25	1.25	1.20	1.18	1.30	....	1.08	1.18	1.27	1.12	1.50	1.45	1.48	1.40	1.35	1.48	1.30	....	1.25	....	....	1.25	1.20

[1] Gulf schedule for Caddo, Homer, Haynesville, Bull Bayou, Crichton, De Soto, El Dorado and Rodessa, Texas. Standard of La. schedule for Cotton Valley, Rodessa, Shreveport (Cross Lake). Magnolia schedule for Haynesville, Cotton Valley, Rodessa, and Miller Co., Ark. Texas Co. schedule for "North Louisiana."

[2] Schedule of Standard of La. for Caddo, De Soto, Sabine, Fouke, Homer, Miller Co., Sugar Creek. Schedule of Root Petroleum Co. for Nick Springs, Urbana light, Schuler sweet, Rainbow, South Field (El Dorado), and Champagnolle.

[3] Schedule of Standard of La. for Atlanta, Buckner, Magnolia, Schuler: Jones sand, Village. Schedule of Root Petroleum Co. for Schuler: Reynolds lime, and Schuler: Jones sand.

[4] Humble schedule for Anderson, Cherokee, Limestone, and Navarro counties and Navarro Crossing field, except that prices from 80 to 92 cents represent postings only for Hawkins field, Wood County, Rodessa, Texas, prices are same as in Rodessa, La.-Ark.

[5] Schedule for Refugio, E. White Point, Greta, Melon Creek, Midway, Minnie Bock, O'Connor-McFaddin, Plymouth, Saxet, Taft, and Tom O'Connor.

[6] Schedule for Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen, Government Wells (N. and S.), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manila, Mirando Valley, Placedo, Randado, Sarnosa, and Tesoro.

[7] Humble schedule for Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa new, Raccoon Bend, South Thompsons, Sugarland, Thompsons, Webster. Texas Co. schedule for Arriola, Ganado, Hamman, Hillje, Humble, Kubela, Magnet, Manvel, Markham, Maurlitz, Old Ocean, Pickett Ridge, Port Neches, Sour Lake, West Columbia, Withers. Pan American Prod. Co. schedule for Hastings and South Houston. Gulf schedule for Spindle Top, Sour Lake, Lovells Lake, West Beaumont, Goose Creek, South Liberty, Big Creek, Blue Ridge, Fannett, Moore, Barbers Hill, Hankamer, Thompsons, Lochridge, Dyersdale, and Hull (old) crudes. Sun schedule for Barbers Hill, Batson old, Cotton Lake, Esperson below 35 gravity, Goose Creek, Greens Lake, Hull below 25, Humble below 35, Nome, North Dayton below 25, Orange, Saratoga, Sour Lake, South Liberty.

[8] Humble schedule for Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull old and new, Pierce Junction, Red Fish Reef, Turtle Bay fields. Sun schedule for Anahuac, Caplen, and Turtle Bay. Gulf schedule for Anahuac, Hull new Pierce Junction, Orange and Thompsons deep.

[9] Humble schedule for Dickinson, Gillock, Hardin, League City, and Rowan fields. Pan American Prod. Co. schedule for Gillock crude.

[10] Sun Oil Co. schedule for Bayou Blue, Chacahoula, Fausse Pointe, Hackberry (E. and W.), and Vinton. Texas Co. schedule for Bay St. Elaine, Caillou Island, Iberia, Lake Barrek, Lake Pelto, Leesville and Port Barre for crude ranging in gravity up to 27-27.9; for lighter oils in those fields see Footnote 12. Gulf schedule for Edgerly, Starks, Vinton, E. Hackberry Cameron Meadows, Leesville. Deduct 10 cents for Gulf's prices for Timbalier Bay, Grand Bay, Quarantine Bay, and West Bay. Deduct 2 cents for Standard of La. prices for University (Baton Rouge) crude of 30 to 35.9 gravity.

[11] Standard of La. schedule for Bayou Mallet, Choctaw, Darrow, Jeanerette, Lirette, N. Crowley, S. Crowley, Fort Barre, Potash, Roanoke, St. Martinville.

[12] Texas Co. schedule for Bateman Lake, Dog Lake, Fausse Point, Horseshoe Bayou, Jefferson Island, Plumb Bob, Vermilion Bay, West Cote Blanche, and Delta Duck Club. Add 8 cents to these prices for Texas Co. postings for 28 or higher gravity at Bay St. Elaine, Caillou Island, Iberia, Lake Pelto, Leesville, Port Barre, and Lake Barre.

[13] Texas Co. schedule for Delta Farms, Golden Meadows, Lake Salvador.

[14] Magnolia schedule for Lockport, Cameron Meadows, West Gueydan.

[15] Shell Oil Co. schedule at Iowa, Black Bayou, White Castle. For Shell's prices at Roanoke and Chalkley fields deduct 5 cents. For Shell's prices at Gibson, South Houma, Hester, and West Lake Verret fields deduct 10 cents.

[16] Sinclair-Wyoming Oil Co. prices at Salt Creek, Lost Soldier, Iron Creek, effective May 20, 1941. Deduct 10 cents for East Mahoney and deduct 20 cents for Mahoney and Wertz.

[17] Add 3 cents for Panhandle prices.

Mid-Continent Flat Prices

FIELD—	Flat Price	Date Posted
Arkansas:		
Big Creek, Dorcheat, McKamie	$1.15	5-22-41
Smackover, Heavy	.83	5-22-41
Louisiana, North:		
Cotton Valley Distillate	1.30	5-22-41
Cotton Valley (Holloway Sand)	1.25	5-22-41
Lisbon Distillate	1.20	5-22-41
Louisiana, South:		
Erath	1.21	5-21-41
Garden Island	1.36	5-21-41
Happytown	1.15	5-20-41
Lafitte, Paradis	1.19	5-21-41
Lake Arthur & Tepetate	1.18	5-21-41
Lake Mongoulois	1.36	5-21-41
Ville Platte	1.20	5-21-41
Texas:		
Alice, Benavides (No. Sweden) Ben Bolt, Clark-Muil, Sun and Tom Graham	1.35	5-21-41
Cayuga	.90	5-21-41
Clay Creek	1.00	5-22-41
Cleveland	1.26	5-21-41
Conroe	1.43	5-21-41
Darst Creek	1.14	5-21-41
Esperson 35 gravity and above and S. Esperson (Sun Oil Co.)	1.30	5-22-41
East Texas, Flag Lake	1.25	5-20-41
Flour Bluff, East Flour Bluff, and La Rosa	1.33	5-21-41
Hockley-Cochran Counties	.87	5-21-41
Livingston, Cleveland	1.25	5-20-41
Long Lake	1.23	5-21-41
Luling	1.05	5-21-41
Lytton Springs	1.17	5-21-41
North Rincon	1.35	5-22-41
Salt Flat, North Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski	1.14	5-21-41
Satsuma, Tomball	1.40	5-21-41
Sun Oil Co. at Batson (new), Fig Ridge, Hardin, Hull 25 and above, Humble 35 and above, LaBelle, North Dayton 25 and above, Oyster Bayou, Seabreeze, South China, West Orange, and Willow Slough	1.25	5-22-41
South Cotton Lake	1.35	5-22-41
Sun	1.35	5-22-41
Talco	.79	5-21-41
Van	1.08	5-21-41
Yates (Deep)	.95	5-20-41
Yates (Shallow)	.82	5-20-41

Michigan Prices

Central (Basin):		
Porter, Greendale, Crystal, Wise, Midland, Vernon, Saginaw	$1.44	5-27-41
Buckeye, Edenville, Bentley, Beaverton, Monitor, Kawkawlin	1.42	5-27-41
Freeman, Lincoln, Sherman Redding, Temple, Winterfield	1.39	5-27-41
Hamilton-Grout	1.29	5-27-41
Adams	1.27	6- 1-41
Arenac, Clayton, Ogemaw, W. Branch	1.24	5-27-41
Southwest (Shallow):		
Traverse crude in Allegan, Kent, Ottawa, Van Buren Cos	1.45	6- 2-41
Clare	1.11	5-27-41

Middle West Prices

FIELD—	Flat Price	Date Posted
Lima, Ohio	$1.17	5-28-41
Illinois Basin (Sohio Corp.)	1.37	5-19-41
Lake Centralia-Salem, Illinois	1.37	5-19-41
Eastern Ill.-Western Ind.	1.22	5-21-41
Western Kentucky	1.32	5-21-41
Birk City, Western Kentucky	1.32	5-21-41
Kentucky River, Eastern Ky.	1.43	6-19-41
Big Sandy River, Eastern Ky.	1.38	6-19-41

Rocky Mountain States Prices

Colorado:		
Canon City and Florence	$0.95	4- 1-41
Iles	.97	4- 1-41
Montana:		
Cat Creek	1.15	4- 1-41
Cut Bank	1.00	1- 1-40
Dry Creek	1.02	5-20-41
Sunburst	1.00	5-20-41
New Mexico:		
Artesia	.94	5-21-41
Hogback	1.00	10-11-38
Wyoming:		
Big Muddy	1.03	4- 1-41
Byron	.55	10-11-38
Elk Basin	1.00	5-21-41
Frannie, Light	.70	5-20-41
Frannie, Heavy	.47	5-20-41
Garland	.50	10-11-38
Grass Creek, Light	1.00	5- 1-41
Grass Creek, Heavy	.50	5-20-41
Hamilton Dome	.45	5-20-41
Lance Creek (Ohio Oil Co.)	1.12	7- 1-41
Mill Creek	.72	10-11-38
Oregon Basin	.40	4-20-40
Osage	1.30	10-11-38
Poison Spider	.59	10-11-38
Rocky River	1.15	5-21-41
Tensleep	.6515	2- 1-41

Mines on petroleum exports to Japan and Kwantung show exports of all products dropped from 76,000 barrels daily average in 1939 to 60,500 barrels daily in 1940, while for the first five months of 1941 the average was further reduced to 38,200 barrels daily. Accordingly, the reduction in 1940 from 1939 ran to more than 20 percent, while in the first five months of 1941 the average was 37 per cent below 1940's reduced total and just half the 1939 average.

Reduction in California exports to Japan has been due in part to the redistribution of Netherlands East Indies oil production which was worked out reportedly through joint arrangements between the two governments directly concerned and participated in by both British and American oil interests working in conjunction with their respective state departments. Through this arrangement Japan was given a larger share in Dutch production in the Indies, while the markets formerly supplied by this source were switched to supplies from Saudi Arabia.

Stoppage of exports to Japan from California will require reversal of the Conservation Committee's policy of relaxing production quotas in California and would probably require a return to a quota approximating the 575,000 barrels daily figure in effect last June. For August the committee has set a quota of 610,000 barrels daily.

The West Coast industry has a substantial volume of business with other foreign purchasers in the Pacific area. Total Pacific foreign oil shipments in the first five months of this year averaged 108,400 barrels daily, with 70,200 barrels daily of the total for destinations other than Japan. These included supplies to China, Australia, New Zealand, Panama, the west coast of South America and some shipments to Russia. A crisis in the Pacific would stop or substantially reduce the movement of these supplies and would bring about a serious dislocation in West Coast operations since it would mean the loss of 16 per cent of total volume.

Crude Output Down Sharply; Texas Fields Closed 3 Days

In reflection of the fact that Texas fields were shut in for three days as against only two the previous week, there was a sharp decrease in United States crude oil production last week, the national output having averaged 3,672,000 barrels daily in the seven days ended August 2. The production was 197,300 barrels lower than in the preceding week and 175,100 under the estimated daily average market demand for domestic crude in July, as forecast by the Bureau of Mines.

Texas averaged 1,234,900 barrels daily, nearly 200,000 barrels less than in the previous week, as fields were shut down July 27, July 31, and August 2, after having been closed in only two days the week before. For the week, the state produced less than the demand for its crude.

Kansas output decreased to 235,500 barrels daily from 241,950 the previous week, and California registered a slight decline. But most of the other important producing states showed increases. Oklahoma, Illinois, Louisiana, New Mexico, Arkansas, and Michigan registered gains that ranged from several hundred to 5000 barrels.

World-Wide Developments

Cuba's Motembo Field Production Increases

Production in the Motembo field of Cuba has appreciably increased during the last few years. Commerce Department data indicate that the field's output this year may total over 7,000,000 gallons, as compared with 4,375,000 and 5,700,000 gallons in 1939 and 1940 respectively.

In Santa Clara Province on the north coast, the field produces a product that is essentially gasoline and which is used as such without refining. It has about 200 wells producing. In the Motembo area as a whole, one well in three is productive.

Last year, Motembo gasoline amounted to 10.5 percent of the total sold in Cuba. Thus far, this gasoline has enjoyed a competitive advantage because it is taxed at a lower rate than is imported gasoline. A tax reform bill that has been under discussion in the Cuban congress would widen this disparity in tax rates in order to encourage expansion of the Motembo industry.

Petroleos Mexicanos Reports New Gulf Coast Oil Area

Petroleos Mexicanos reported discovery of a new oil area on the Mexican Gulf coast, with a gas pressure equal to that found in the Poza Rica field. The discovery is in the Mesa de Mecatepec region, near Vera Cruz. Quantity of oil and gas production has not been announced. The well is in an area where Mexican Eagle Oil Company drilled several tests unsuccessfully, said Petroleos Mexicanos.

Japan's Oil Supply Seriously Threatened

Concerted moves last week by the American, British and Netherlands Indies governments threatened heavy restrictions on Japan's oil supplies. The actions suspended existing agreements and placed exports to Japan on a day-to-day basis, the full nature of which remains unclarified. Undersecretary of State Welles, refusing to discuss possibility of a total suspension of American oil products to Japan, said individual transactions with Japan would be considered on their merits under the general licensing order covering all oils. An official of the Netherlands Indies government declared permits for oil exports from his country would depend on the "international situation."

The prospect that these developments may reach a point where Japan might move to seize the oil resources of the Netherlands East Indies is clearly seen in a statement of the Netherlands minister in Washington that wells and refineries in the Indies will be "effectively destroyed" rather than permit them to fall into hostile hands. He revealed that arrangements had been made some time ago for such action. "These plants won't be merely disabled," he said. "They will be effectively and completely destroyed."

The Netherlands Indies agreement made with Japan late in 1940 and renewed last May provided that Japan should get about 13,000,000 barrels of crude and products yearly, slightly over half the quantity Japan imported last year from the United States. Together, the two countries provide the bulk of Japan's oil supplies, the remainder coming largely from British-controlled areas.

New Sand Indicated for El Roble; Drilling Progress

A new sand in the Roble field of Pantepec Oil Company and Standard Oil Company of Venezuela was indicated when Roble 5 developed an oil flow at about 8500 feet. Last week, the well was drilling below 9000 feet. Roble 6 was below 5846 feet, carrying considerable interest as it is a short distance off territory considered proved. Roble 7 has been located about ¾-mile east of No. 5, and southwest of No. 2.

Drilling a test on Pantepec-Standard's Amana River concession of 112,175 acres probably will begin next September or October. Geological conditions indicate Venezuelan Petroleum Company's Santa Barbara field may extend east several miles into the Amana block, which may also include prospective territory south of the Jusepin field. Pantepec is interested in a 21,437-acre Pirital block a few miles due west of the Santa Barbara wells, and is watching Santa Barbara developments.

Socony-Vacuum Oil Company abandoned Hamaca 1 at 3472 feet, in southern Anzoategui state, Venezuela, 11 miles northeast of Atapirire. The company's Anaco 1, Roble area, stood at 1,294 feet, awaiting cement, and Guario 3, San Joaquin area, was coring below 9606 feet.

Sociedad Anonima Petrolera Las Mercedes will drill a second wildcat in central Guarico state, Venezuela, about ½-mile south of Mercedes 1, suspended several weeks ago. Location for No. 2 was being prepared.

Grant Permits for Storage At Barranquilla Colombia

Tropical Oil Company has received a permit for construction of a 25,000-barrel gasoline storage tank and a 50,000-barrel bunker fuel tank at the port of Barranquilla, Colombia. Dock facilities and a warehouse are reported planned. Present facilities limit the rate at which fuel oil may be delivered.

Magdalena River Valley Petroleum Company's Cimitarra 1 was temporarily suspended at 1494 feet.

On the Barco, Colombian Petroleum Company spudded Tres Bocas 2-A, which was below 57 feet. Tres Bocas 2 recently was suspended at around 2000 feet. The company was moving in derrick for Socuavo 2, four miles northwest of Socuavo 1, which was drilling below 9194 feet in lime. South Sardinata 1 was coring in shale and sand below 4216 feet.

Argentina Drilling

Ultramar Sociedad Anonima Petrolera Argentina was drilling and coring its Santa Cruz province test, Piedra Clavada 1, below 4218 feet.

U. S. FIELD OPERATIONS

Illinois Basin

Hamilton County Pool Opener Flows 417 Barrels in 22 Hours

Shell's Ventress 1, SW SW SE 12-6s-5e, Hamilton County, Illinois, pool opener, flowed 417 bbls in 22 hours while cleaning; production natural from Lower O'Hara at 3188-98; to be acidized; Kingwood's Johnson 1, ne se ne 14-6s-5e, waiting on cement on Aux Vases at 3164-95 ft after flowing on drill-stem test; Shell well also had good show in Aux Vases.

White County: Wall & Mitchell's Kershaw 1, SW SW NE 22-3s-10e, pool opener, pumped 200 bbls in 24 hours after shot in Cypress at 2878-2900 ft. Morrison & Noah's Curtis 1, SE SW NE 22-3s-10e, west offset to discovery, drilling 1500 ft.

Wayne County: Biggest well in Illinois basin in many months completed in Johnsonville field. Texas Co.'s Leathers 1, NW SW 27-1n-6e, flowed 1690 bbls natural in 4½ hours from McClosky, total depth 3029 ft; under choke flowed 4519 bbls in 24 hours; same operators Watson 1, NW NE 34-1n-6e, flowed 1704 bbls natural, total depth 3044 ft, and Watson 2, flowed 1037 bbls natural from 3068 ft. New Penn Development Co.'s Watson 2, flowed 1037 bbls natural from 3068 ft. New Penn Development Co.'s Wagner 2, C S½ NW SE 30-2s-9e, swabbed water, no oil, from McClosky. Pure Oil Co.'s Marshall 1, C W½ SW NW 16-1s-8e, showing for pool opener swabbing oil, some water from McClosky lime. Texas Co.'s Draper 1, pool opener, N½ NW SW 8-3s-6e, swabbed 68 bbls of oil, no water, from McClosky.

Jefferson County: Second producer in South Woodlawn field, Gulf's Eubanks 1, 35-2s-1e, pumped 525 bbls in 11 hours, total depth 1960 ft, Benoist sand, after 30-qt shot; Magnolia's Shirley 1, NW NW SE 35-2s-1e, swabbed 840 bbls in 24 hours after shot, total depth 1979 ft.

Marion County: Swan-King's Kotva 1 and 2, C S½ SW NW 36-4n-2e, shut in, No. 1 waiting on pipe line after showing pool opener, Rosiclare 2085-2101 ft; No. 2 waiting on cement with casing on Rosiclare at 2088 ft.

New Pool in Posey County And Another Wildcat Showing

Posey County recorded Indiana pool-opener, with second wildcat showing favorably.

Posey County: A. W. Cherry & Barron Kid's H. C. Ford 1, SE SW NW 34-4s-13w, 4 miles east New Harmony, 7 miles from production, swabbed 7½ bbls oil hour, 2500 gals acid, McClosky 2976-86 ft.

Central States Oil Co.'s D. H. Breeze 1, NW SW SW 19-6s-12w, mile east Cypress sand production Caborn field, Tar Springs show 1970 ft, drilling plug.

Charles Loveless' Dausman 1, NE NW NE 25-6s-13w, ½ mile southwest Breeze 1, spudded. Joe Dawson's J. T. Aldrich 1, SE SW SE 36-5s-15w, Wabash River bank, southwest South New Harmony field of Illinois' White County, abandoned through McClosky 3105 ft. Brown-Eslick-Nelson located Mary Reichart 1, SE NW SE 25-7s-15w, Point Township, location west dry hole drilled through Aux Vases and McClosky.

Kansas

Russell County Gains Two New Oil Pools

Two wildcat strikes Russell County; prospective pool openers 2¼ miles northwest Toulon pool and 3½ miles east Russell pool; test wildcat mile southeast Kruse pool, Rooks County.

Russell County: Centrol Petroleum Co. & Pryor & Lockhart, Inc. et al's Steinlie 1, C N½ NW NE 29-15-12w, 1¼ miles west Dubuque pool, 4 miles south Greenvale pool, Lansing 3046 ft, water 3140-45 ft, missed Conglomerate section to structurally elevate wildcat, Arbuckle 3320 ft, drilled in 2 ft, hole filled 1700 ft high-gravity crude 1 hour, increased hole full oil 6 hours, 5-in 3320 ft, estimated maximum 3000-bbl producer, erecting tankage for potential test. Operators staked Hilgengerd 1, C S½ SE NW 20-15-12w, ¾-mile northwest, contract to Mercury Drilling Co.

Operators Gustason 1, C S½ SE NW 14-15-12w, 2½ miles southeast Greenvale pool, pumped 25 bbls hour, 3 hour preliminary test, Arbuckle 3247 ft, penetrated to 3256 ft. Phil-Han Oil Co.'s Ney 1, NW SW SW 2-15-12w, 2 miles east Greenvale pool, moving in materials.

Ellis County: Darby Petroleum Corp.'s Dreiling 1, SEc NW 28-13-17w, 2¼ miles northwest Toulon pool, Arbuckle 3521 ft, 5-in 3520 ft, bottomed 3534 ft, indicated Arbuckle small well, to perforate Lansing lime 3259 ft before testing Arbuckle; saturation 3268-69 and 3285-92 ft, spotted saturation 3315-18 and 3318-29 ft, good saturation 3348-51 ft, spotted saturation 3353-58 ft, Conglomerate 3506 ft, reworked Arbuckle 3518 ft. Operator moving in materials Giebler 1, SE NW SE 27-13-20w, 6 miles northwest Kraus pool.

Brooks County: Cities Service Oil Co.'s Ervay 1, SEc 2-10-16w, mile southeast Kruse pool, Anhydrite 1120 ft, Topeka 2801 ft, fair porosity show oil 3069-75 ft, spotted porosity show oil 3077-80 ft, Lansing 3108 ft, fair porosity good saturation 3141-51 ft, poor porosity good saturation 3156-60 ft, Conglomerate 3428 ft, Arbuckle 3485 ft, bottomed 3495 ft, 4-inch 3205 ft, to perforate Lansing. Kruse pool produces Oswald (Pennsylvanian) 3077-3134 ft.

Russell Strike: Ruso Drilling Co. et al's Phillips Estate 1, SE NE NE 6-14-13w, 3½ miles east Russell pool, Arbuckle 3329 ft, core 3329-35 ft full saturation, good porosity; 4½-in 3329 ft, to drill plugs. Central Petroleum Co.'s Harbaugh 1, NWc 21-14-12w, 2 miles north Greenvale pool, rotating 3000 ft in Lansing.

Barton County: Helmerich & Payne et al's Unruh 1, C E½ NE NW 16-20-15w, 4 miles ne Pawnee Rock pool, Arbuckle 3720 ft, bottomed 3805 ft, 6000 gallons acid two stages, 27 bbls oil 20 hours, increased 50 bbls oil 35 bbls water 24 hours, 1.6 million ft gas, testing.

Barber County: Pryor & Lockhart et al's Ishmael 1, C S½ SE SW 35-34-11w, 13 miles southeast Medicine Lodge pool, Arbuckle 5339-51 ft, abandoned. Deep Rock Oil Corp.'s Skinner 1, C W½ NW SW 21-31-14w, 4½ miles southwest 1-well Lake City pool, drilling below 2500 ft.

Oklahoma

Maintain Pressure at Guthrie; Lincoln Wildcat Shows

Pressure maintenance to be adopted Guthrie pool, Logan County; Sinclair Prairie Oil Company stakes location 20,000-acre seismograph block Bryan County; discovery wells completed North Davenport pool, Lincoln County, Northeast Mehan (Rattlesnake) pool, Payne County, and East Olean pool, Creek County; Lincoln County wildcat shows new discovery.

Guthrie Pool: Temporary booster station capacity 1,000,000 ft gas daily ordered for pressure maintenance project; Continental Oil Co. to be named unit operator, Sunray Oil Co., W. C. McBride, Inc. and Sinclair Prairie Oil Co. participants; first producer on pump as Sinclair Prairie orders sucker rods Sult 1, SWc NE 7-17n-1w; several wells cutting small percentages water; bottomhole pressure originally 2200 pounds, now 1700 pounds; first 100,000-bbl withdraw recorded 9 percent pressure drop, no active water drive or water coning; 4.5 million ft gas available day; allowable reduced 300 to 150 bbls for August, gas/oil ratio held 500/1. Fifteenth producer, Sinclair Prairie's Sult 2, SE SW NE 7-17n-1w, north edge production, 539 bbls 24 hours, bottomed 5461 ft Second Wilcox. Field defined south by 2 dry holes, east by 1 failure.

Lincoln County: Allied Materials Corp. et al's Hicks 1, NWc 25-13n-6e, 3 miles south Laffoon pool, perforated 30 holes 4215-47 ft, Viola lime 4218 ft, 1000 gals acid, 0.5 million ft gas, small show oil, rock pressure 1575 lbs, squeeze cementing, to reperforate lime; Hogshooter 1570 ft, Checkerboard 1980 ft, Cleveland 2040 ft, Oswego 2830 ft, Prue 2835 ft, Pink lime 3070 ft, Inola 3390 ft, Brown lime 3545 ft, Mississippi Caney 3720 ft, Mayes 3930 ft, Woodford 4045 ft, Hunton 4078 ft, Sylvan 4121 ft, Viola 4219 ft, Dense 4247 ft, Dolomite 4252 ft, First Wilcox 4272 ft, bottomed 4312 ft, 6-in 4306 ft; Hunton drill-stem test, open 10 minutes, 4080-4107 ft, 1.0 million ft gas.

Dunnett Oil Co.'s Luckenbill 1, SW SE SE 29-15n-5e, North Davenport discovery, 35 bbls 24 hours, Prue 3504 ft, shot 82 qts 3520-45 ft, bottomed 3550 ft, plugged back 3548 ft.

East Tecumseh: Atlantic Refining Co.'s Higbee 1, SE NW SW 22-9n-4e, east edge production, Second Wilcox sand 4628-34 ft, saturated sand an dolo-

mite, 7-in 4628 ft, to drill plugs, showed oil in Viola, water in First Wilcox; Viola is pay for area. Smith Brothers Drilling Co.'s Billington 1, SEc 22-9n-4e, may prove initial Hunton lime production, pay 4167 ft, cored 4167-77 ft, 7 ft saturation, drilling. Stanolind-Amerada's Rowan 1, NE NW SW 20-9n-4e, bottomed 5262 ft for water, Second Wilcox sand, 5½-in 4836 ft, waiting on cement, Hunton top 4706 ft.

Payne County: T. N. Berry et al's Fee 1, NW NE SW 13-18n-3e, Northeast Mehan pool discovery, 340 bbls 42-gr oil 17 hours, open 2½-in tubing, 3.0 million ft gas, First Wilcox 4065 ft, Second Wilcox 4100 ft, bottomed at 4103½ ft.

Creek County: Zephyr Drilling Co.'s Sinclair 1, SEc NW 34-17n-8e, 2 miles east Olean pool, pumped 240 bbls 40.5-gr oil 24 hours, Prue sand shot 80 qts 2330-87 ft, dry Wilcox sand 3658-92 ft.

Okfuskee County: Shell Oil Co.'s Heffner 1, SE NW NW 17-11n-9e, 1½ miles north West Okemah pool, seismograph structure, drilling 2000 ft. W. C. McBride rotary drilling Lang 1, SEc SW 17-12n-10e, 2 miles north Cary pool. Deep Rock Oil Corp.'s Owens 1, SE NE SE 20-11n-9e, third producer West Okemah pool, Hunton 3877-3960 ft, 1500 gals acid, 75.0 million ft gas. Shelton Drilling Co.'s Armstrong 1, SEc NW 3-11n-10e, wildcat strike 3½ miles northeast Okemah, 84 bbls 24 hours, Gilcrease pay 2970-3122 ft, bottomed 3394 ft. Shell Oil Co.'s Palmer 1, SW NW SW 6-10n-9e, mile east East Cromwell pool, 4-in pipe 4185 ft, drilled plugs 4215 ft, Wilcox sand, 13 bbls water, show oil, plugging back to test Hunton 3882-4023 ft.

West Texas

Reagan County Oil Well Sets District Depth Record

Southeastern Reagan County oil discovery in Ellenberger establishes producing depth record for West Texas. Lubbock County wildcat looks promising for oil production from Lower Permian, situated 35 miles northeast nearest pool. Stanolind purchases more properties. Winkler County deep oil prospects enhanced.

Reagan County: Amerada's University 1-A-R, C SE NE Section 3, Block 48, 21 miles southeast Ordovician in Big Lake field and near center 24,000-acre lease block, flowed 15 bbls oil hourly natural with in excess of 1,000,000 feet of gas daily while cleaning in pits. Well rated at 300 to 500 bbls daily without acid. Production from dolomite 9017-50 ft and 9060-66 ft, total depth 9080 ft in Ellenberger, topped 8960 ft. No shows in Permian, entered detrital 8905 ft, elevation 2768 ft, and Simpson series absent, although thin section present in Big Lake field's 8100-8600-ft Ordovician oil area. New discovery was cased with 5½-in at 9017 ft without customary drill-stem test account open hole below 2225 ft. Close to trunk lines Humble and Shell. University of Texas has few unleased tracts in south portion discovery block, and Tide Water Associated Oil Company holds east offset.

Lubbock County: L. C. Harrison et al's Nairn 1, C SE SE Section 25, Block A, J. H. Gibson Survey, 4 miles northeast Lubbock and 35 miles northeast Slaughter field, was to run 5½-in and change to standard rig late last week after core 4881-91 ft, total depth, yielded 6 ft shaley-lime and 4 ft oil-saturated dolomite. This prospective strike is in Clear Fork, or lower middle Permian topped near 4700-ft level, elevation 3202 ft. Situated on 10,500-acre block assembled by Texas Pacific Coal & Oil Co. and Seaboard Oil Co., with latter assigning 3600-acre checkerboard spread for test, and retaining offsets. Nairn 1 on south flank of recently established granite ridge extending west-east along north border Cochran, Hockley and Lubbock counties, accounting for unusual uplift. Top Yates 1930 ft, first lime 2690 ft, San Andres 3100 ft. All production north portion West Texas Permian basin in upper Permian, except single 6250-6881-ft producer in Wasson field.

Winkler County: Magnolia's Walton-State 20, between Keystone and Kermit fields and first in county to go below Permian, drilling hard chert and lime 7695 ft in Pennsylvanian, topped 7630 ft. Scheduled to continue to Ordovician, if dry will plug back and try for production in middle and lower Permian. Favorable shows 4800-4900 ft; 5300-5400 ft; 7100-7200 ft and 7525-39 ft. Extensive lease buying of regular Permian condemned acreage past year in east half county forerunner additional deep explorations, with Amerada and Humble slated to drill their blocks.

Wildcats: Stanolind's Scanlan 1, C SE SE E. L. Ry. Section 87, Block M, Dawson County, 4½ miles northeast Cedar Lake field production, in Gaines County, spudded. In

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Andrews County, Fuhrman Petroleum Corp.'s Seidell 1, SEc PSL Section 6, Block A-42, new operation midway between two isolated wildcats to west of Fuhrman field. Mascho Oil Co.'s Fisher 1, C NE SE PSL Section 16, Block A-36, southeast edge Shafter Lake, Andrews County, showing small volume sulphur water with oil and gas following acid, having plugged back from 4602 ft to 4589 ft. In Lynn County, Uscan Drilling Co. and Ross Sport's Rice 1, 2 miles northeast New Home, drilling lime 4830 ft, topped San Andres 3810 ft. Helmerich & Payne et al's Slaughter 1, Cochran County, drilling 4780 ft, below regular Permian zones.

Property Deal: Stanolind Oil & Gas Company due to complete title examination early this week for the purchase of Osage Drilling Co.'s 8 leases, aggregating 830 acres, with 18 5100-ft producers in Cochran County sector Slaughter field for $513,000. Former paid $1,086,000 for Awoeb Oil Co. and Bond Oil Corp.'s 750 acres and 18 wells in Hockley County portion of field last June, and more recently purchased Barnsdall Oil Co.'s scattered producing properties in basin for $4,770,000.

Abell: Magnolia's Gerety 1, northwest outpost and third gasser, rated 25,000,000 feet daily in Sharp sand, perforated 5973-84 ft, plugged back from Ellenberger 6088-6292 ft. Field has 18 oil wells also in Simpson series. The Texas-New Mexico Pipe Line Co. to enter field with 6-in from Crane County.

Apco: A. W. Thompson's Gregg-Texaco 1, seventh producer and southwest extension, rated initial 1469 bbls, gas/oil ratio 900/1, Ellenberger 4553-4625 ft, elevation 2441 ft. This 160-acre farmout from Texas Co. calls for 4 wells. Anderson-Prichard's Boren 1, ½-mile west of McCandless and Olson Oil Co.'s Ellenberger producer to south of Apco pool, drilling dry dolomite 4700 ft in Ellenberger, topped 4490 ft. Discovery entered Ellenberger 4405 ft (4390 ft electric log) and reached granite 4522-26 ft.

North Texas

Ellenberger Test in Electra Field Awaiting Confirmation

Young County has Bend lime strike pending and added deeper oil zone New Castle area. Joy prospect, Clay County, promises Mississippian discovery. Hults-Owens pool, western Montague County, third Bend producer makes big flow. Ellenberger confirmation test old Electra field awaiting test.

Young County: R. P. Dorian and Mitchell's Daniels 1, SWc TE&L Section 421, mile east by south 4000-ft Bend lime discovery New Castle deep pool, proved Marble Falls lime, topped 4409 ft, natural flow 200 bbls oil in tanks and additional flow in pits, 12 hours, having perforated 4409-35 ft. Daniels 1 tested water in Ellenberger 4920-45 ft, 7-in 4920 ft, stain and oil odor in Mississippian 4756-96 ft, not tested. L. T. Burns et al's Ragsland 1, NEc W½ TE&L Section 257, wildcat between Larimore and T. D. Humphrey's Mississippian areas, proved dry in Mississippian 4872-5029 ft, plugged back to try for oil production in Bend, topped 3920 ft. Ray Oil Co.-Consolidated Oil Co.'s Dunagan 1, mile northwest Larimore deep pool discovery, reacidizing after first treatment yielded small volume oil and gas, perforated 4200-68 ft in Bend, topped 4200 ft. Plugged back from water in Mississippian 4898-5005 ft.

Clay County: L. T. Burns et al's Wynn 1, Lot 34, H. Williams Survey, 2 miles west by north Joy, recovered 150 ft oil-cut mud, 1300 lbs bottom-hole pressure, on 30-minute drill-stem test saturated lime 5905-67 ft in Mississippian, topped 5891 ft. Pipe to be set for test. Situated 2 miles south by east Bridwell Oil Co.'s Myers 1, which logged 41-foot section Mississippian, topped 5997 ft, being 132 ft low.

Jack County: F. Kirk Johnson et al's Shawver 1, J. Turner Survey, projected 5500-ft wildcat, logged additional gas 3380-81 ft and 3685 ft in Strawn, and was drilling shale 3800 ft.

Montague County: Shell's Thomas 1, 1⅝ miles northeast of the Holt 1700-ft oil pool, and north of the buried granite ridge responsible for the latter structure, entered Ellenberger 4144 ft, drilling dry dolomite 4470 ft. May continue to granite before plugging back to try for production in promising Strawn saturation passed up 3035-50 ft. Original test Holt structure reached granite 3615-48 ft. Gibson & Jennings et al's Howard 4, 2 miles southeast Holt pool, but separated by 4705-ft failure, which logged oil shows in Lower Strawn and quit in granite, was drilling dry Strawn 3175 ft. Larry Hults and Tom B. Owens' Summers 1, north offset to their discovery in western Montague County, made heavy flow oil in pits on preliminary test following 2000 gallons acid through perforations 6034-50 ft in Bend, topped 6040 ft. Hole carried to Simpson 7239 ft, 7-inch 7210 ft, where tested water.

Wilbarger County: W. T. Waggoner Estate's Fee 33, SE NE H&TC Section 14, Block 13, west of single Ellenberger producer old Electra field, recovered 8 ft oil-saturated dolomite in core 2991-3008 ft, halted 3010 ft to run pipe. Pay is level with Magnolia's deepened discovery, which entered Ellenberger 2997 ft, with 4½-in 3007 ft. In Fargo pool, Amerada's Smith 1, east outpost, flowed 72 bbls oil natural 3 hours ½-in choke, Basal Canyon 3934-44 ft, plugged back from 3975 ft. Company rigged Pauline Andrew 1, NW SE H&TC Section 37, southeast outpost.

Moore County Oil Strike; Drilling Revival

Moore County had oil strike within sparsely drilled dry-gas area, 18 miles west and south nearest oil production. Texas Panhandle responding to recent adoption by all purchasers of $1.15 top price posting and record demand with general drilling revival.

Oil Discovery: Texhoma Natural Gas Co.'s Kilgore-Gulf 4, C E½ H&TC Section 16, Block 44, southwestern Moore County, 57 bbls 37.5-gr oil 21½-hr bailing test, granite wash saturation 3285-94 ft, bottom. Nominal show gas in lime 3068 ft, but missed big gas pay found general area.

Gray County: Texas Co.'s M. B. Davis 20 flowed 319 bbls oil, 6,400,000 ft gas natural, granite wash 2730-2830 ft. Comparatively few oil producers completed without using acid or nitro. Latter completed 8 oil wells past week, has 20 operations, including 16 drilling or testing.

Southwest Texas

LaSalle County Showing Has Possibility of Development

LaSalle basin, probably the center of an old sea, may provide location for the next major oil field of Texas. This was indicated August 1 when Quintana Petroleum Corporation (H. R. Cullen) started testing Washburn 3 at 11,042 ft, deep into the Cretaceous formation. Location is in Section 88, northwest of the discovery well of the Washburn field, LaSalle County.

Due to the lack of information concerning deep Cretaceous in this region, importance of the test is problematical. The structure is mapped to cover an area about 10 miles wide and 17 miles long in northeastern LaSalle County, and the well checked structurally high.

The well, started six months ago, set 13⅜-in surface casing at 875 ft, 9⅝-in at 5900 ft, and producing string on or close to bottom.

The test is on a block of 400,000 acres held by Cullen.

The potential discovery drilled 3000 ft of hard shale which carried a high distillate content, but which apparently would not produce commercially. Near the bottom of the hole, however, 400 ft of tight lime carried oil showings. Drill-stem test from 9800 ft to the bottom brought an attempted blowout that required two days of mud conditioning. Estimates on the pressure are as high, to indicate a gas well, but the thick section of lime with oil may result in an oil producer after acid.

Wilson County: Shell Oil Co.'s Ridout 3, 7 miles northeast of Floresville, attempted to blow out at 5400 ft, stuck drill pipe, killed and testing. Heavy pressure reported, but no information as to any fluid produced. Originally drilled to 5300 ft, top Edwards 5180 ft, by Trio Oil Company. Would open new Edwards limestone field.

East Premont and Minnie Bock Have New Oil Sands

Lower Gulf Coast: Magnolia Petroleum Co.'s Seeligson 17, perforated 5555-57 ft, flowed 168.82 bbls day 38-gr, no water, 5/32-in choke, tubing pressure 660 lbs, casing 1100 lbs; gas/oil ratio 465/1, new sand East Premont field, Jim Wells County.

Wilcox Oil & Gas Co. and Ike Howeth's Adams 1, perforated 4312-22 ft, 5 bbls hour oil, mud and salt water, ⅛-in choke, 200 lbs tubing, 1020 lbs casing pressures; squeezed and reperforated 4312-15 ft, salt water; squeezed and reperforating in sand 4186-4205 ft; would open new Jim Wells County field 1½ miles West Alfred production.

Wellington Oil Co. of Del.'s Howze 1, perforated 5510-18 ft, flowed estimated 5,000,000 ft gas, 30 bbls 55-gr distillate, 5/32-in choke, 1850 lbs tubing, 2000 lbs casing pressure, 2200 lbs shut-in pressure, new deepest sand, Minnie Bock pool, Nueces County.

Pettus Trend: Simmons Oil Co.'s Reagan 2 flowed estimated 35 bbls 28-gr oil, 200,000 ft gas ¼-in choke, 650 lbs tubing, 1200 lbs casing pressures; perforated 2743-48 ft; gas sand 2720-40 ft, oil sand 2740-51 ft; extends Oakville field, Live Oak County, 1½ miles southwest; production from Pettus sand.

Clyde Echols' Newberry 1, Green

prospect, Karnes County, abandoned April, 1940, reperforated Pettus 2940-52 ft, 1500 ft oil, may pump; indicates new field.

Mirando District: Hiawatha Oil & Gas Co.'s Parr 2, flowed 5 bbls oil and salt water hour, ¼-in choke, 650 lbs tubing, 840 lbs casing pressure, perforations 4916-21 ft; perforations squeezed, new perforations were made about same level; testing in effort to open East Benavides field, 1½ miles east North Sweden area, Duval County.

Argo Oil Corp.'s Celso Gonzales 1, Carrera Survey, 10 miles northwest Premont, Duval County, shut in gas well, new field; stuck drill stem 12 feet off bottom, 6308 ft, cemented and perforated 6270-84 ft with 60 shots. Shut-in pressure 2700 lbs; production from Hockleyensis, topped 6146 ft.

East Texas

New Salem Well Makes Pipe Line Oil on Gauge

New Salem discovery in southwestern Rusk County makes pipe line oil on completion gauge, and south offset indicates larger well. Development obligations assumed by purchasers of acreage out of discovery lease block to be fulfilled.

New Salem: L. O. McMillan et al's Pool 1, discovery well that began showing oil and high gas/oil ratio in mid-May, Woodbine perforations 4054-62 ft, flowed 215 bbls oil initial through ¼-in choke, gas/oil ratio 561/1. It was drilled by Ross Sears and Phillips, and originally showed considerable cut oil. M. D. Bryant et al's Evans 1, south offset, flowed 17 bbls hourly, ¼-in choke, 7 percent BS&W, perforations 4056-65 ft, and later flowed 14½ bbls hourly, with cut decreasing. Bryant et al starting offset. McMillan et al's Pool 2, west offset discovery, topped Pecan Chalk 3075 ft, elevation 387 ft, drilling 3220 ft. Crasty et al's Kangerga 1, ½-mile northwest outpost and temporarily abandoned in water 4086 ft, cemented 5½-in to test upper Woodbine, topped 4065 ft, elevation 403 ft.

Wood County: N. P. Powell et al's Markey & Miller 1, 2½ miles northeast Hawkins production, awaiting orders 4925 ft, based Austin chalk 4725 ft, elevation 384 ft, structurally low.

Cayuga Deep: Tide Water Associated and Seaboard's Luterloh 7, fifth producer for the Rodessa member of Lower Glenrose series, rated 7,588,000 ft gas, with 11 bbls 50-gr distillate per million ft gas, on ½-in tubing choke. Broken saturation 7224-7396 ft, total depth 7434 ft, treated 10,000 gallons acid.

Cherokee County: Bobby Manziel et al's Limberlog School 1, third wildcat for group within Humble's Larissa geophysical prospect, topped Pecan Chalk 3475 ft, elevation 497 ft, drilling 3690 ft.

Henderson County: British American Oil Producing Co.'s Young 1, which passed up possible gas-distillate zone in 7700-ft Rodessa zone, drilling 8160 ft to fulfill depth contract. Will plug back and renew test of Rodessa.

Chapel Hill: Construction of a 35,000,000-ft daily capacity recycling plant to utilize gas-distillate production from Paluxy 5700-5800 zone, considered proved over 3000 acres with 2 completed wells, tentatively agreed upon by lease owners north end field. Shell Oil Co., largest acreage contributor to unit, will

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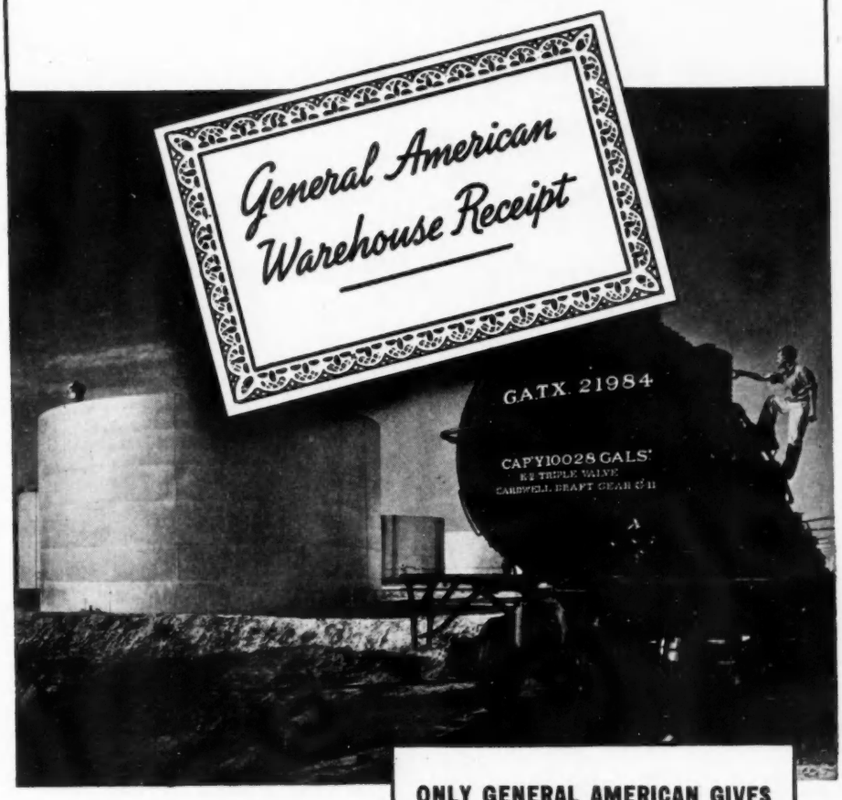

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have charge installation and operation. Recovery will average 48 barrels distillate per million feet gas. Texas Co.'s Phillips 1, ½ mile northeast outpost, passed up thick section gas-distillate in Paluxy, topped 5641 ft, elevation 441 ft, and drilling 6200 ft. Rodessa and Pettit gas-distillate zones are not suitable for recycling.

Texas Gulf Coast

Deep Wildcats Continue Center of Interest

Deep wildcat operations continued to hold Gulf Coast interest.

Polk County: Gulf Production Co.'s Wing 48, Segno field deep test, electrolog 11,000 ft. Pan American Production Co. will drill Texas Long Leaf 1, Goodrich area, 9000 ft for Wilcox test.

Montgomery County: Atlantic Refining Co.'s Foster 1, at Fostoria, drilling 7500 ft, nearing Wilcox objective. Cockburn Oil Corp. will drill Bender 1, 6000 ft for Cockfield test.

Fort Bend County: Cockburn's Leveridge Estate 1, drilled 7850 ft in sidetracked hole, electrolog showed 6-ft oil sand 7344-50 ft. Atlantic moving in rig northeast flank Nash Dome. Houston Oil Co. completing Thompson 1, northwest outpost Clodine area.

Scattered Tests: Traders Oil Co. located J. M. McDade 1, Nicholas Brady Sur., northeast Houston, Harris County, 4100-ft Frio test. W. R. Davis' Brownson A-3, second Wilcox test West Garwood area, drilling 8000 ft.

South Louisiana

New Shallow Production Opened at Gueydan

New shallow pay opened Gueydan field, Vermilion Parish; outpost in Lakeside area, Cameron Parish, testing, and St. Landry Parish wildcat abandoned.

Vermilion Parish: Fohs Oil Co.'s Mulvey Irrigation 3, Sec. 34-11s-1w, perforated 8755-68 ft, flowed 225 bbls oil, 15 percent salt water, 10/64-in choke, tubing pressure 950 lbs, new shallow pay Gueydan field. Operator's Dore 1, testing 10,175 ft. Humble 1, north flank dome, 7-in casing 8000 ft, bottomed 8260 ft.

Cameron Parish: Superior Oil Co.'s Calcasieu National 1, 3300 ft north Lakeside discovery, perforated 9900-15 ft, testing; bottomed 10,000 ft sidetracked hole, electrolog showed gas 9868-9938 ft; started side-track 3382 ft after unsuccessful fishing job in 10,422-ft hole.

St. Landry Parish: Bowles & Hafner's Southwest Opelousas wildcat quit 8532 ft after electrolog. Brewster & Bartle Drilling Co. spudding 9000-ft Frio test Sec. 25-8s-3e, Cankton area.

Calcasieu Parish: Pan American Production Co.'s Louisiana Land & Livestock 1, Moss Lake prospect, drilling 10,061 ft after conditioning hole. Gulf Refining Co.'s Calcasieu National Bank 1, Sec. 18-11s-5w, Hayes area, still blowing wild, cratering, fire put out. Stanolind Oil & Gas Co.'s Lock-Moore Co. 1, Sec. 4-10s-9w, northeast flank Lockport field, clearing location 8500-ft test; deepest hole in area 7902 ft.

Scattered Tests: Congo Oil Co.'s Dreyfuss 1, Rosedale prospect, Iberville Parish, ran electrolog for correlation, drilling 8800 ft. Sinclair Prairie Oil Co.'s Bourg prospect deep test, Terrebonne Parish, abandoned 11,020 ft. Phillips Petroleum Co.'s Fitzsimmons 1, southwest Erath production, reported testing new sand, drilled tight.

North Louisiana

Start 22-Well Program in Bellevue Shallow Field

Twenty-two well program started in shallow Bellevue field, Bossier Parish; second Wilcox completion Catahoula Lake field, LaSalle Parish; Olla trend wildcatting continues.

Bellevue: Premier Investment Co. and T. G. Shaw launched 22-well campaign; truncated dome structure, production 300-400 ft, discovered 1921.

Catahoula Lake: Carter Oil Co.'s Louisiana Delta Hardwood 2, Sec. 12-6n-4e, 189 bbls for field's second Wilcox well.

Wildcat Activity: H. L. Hunt located Mitchiner 1 and 2, C SW SE 15-23n-7w and SW SW 15-23n-7w, Claiborne Parish, 8500-ft tests 4 miles east shallow Haynesville field, locations on geophysical prospect.

Crow Drilling Co.'s Bruce Lumber 1, C SE 16-21n-9e, Buckner anhydrite of Smackover series subsea 5554 ft, 80 ft higher than failure 11 miles southwest; Smackover 5960 ft, 188 ft higher than failure.

Leasing Activity: H. L. Hunt obtained 6-month geophysical option 26,000 acres Tensas Delta Lumber Co. land Townships 4 and 5 north, Range 5 east, Catahoula Parish; maximum selection 5000 acres and Wilcox test; Ernest Young leased 2000 acres Township 7n-5e.

J. K. Hughes acquired 10,000-acre block around Sec. 23-7n-9e, Concordia Parish, for Wilcox test to spud by October 5. E. Elliott assembling 10,000 acres around Sec. 4-7n-8e for 8000-ft test.

Arkansas

Union County Wildcat Proposes to Go 8000 Feet

Union County wildcat to go 8000 ft, or Smackover lime; Snow Hill structure, Ouachita County, to receive Smackover flank test.

Union County: Stacy-Erwin and Delta Drilling Co.'s J. A. Pickering 1, C SE NW 32-18-16, rigging 8000-ft Smackover test on 2000 acres secured from Carter Oil Co.

Ouachita County: Charles Murphy, Jr. and Sam Richardson taking block around Sec. 26-15-15, east flank Snow Hill structure, 2 miles production old shallow Smackover field, for Smackover lime test.

McKamie Field: Carter Oil Co.'s Hanes 1, Sec. 30-17-23, west edge test closely watched because of small porosity and lower gas/oil ratio in recently completed northwest edge well; topped Buckner 8746 ft; Smackover 8891 ft; porosity 8949 ft.

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Northeast Tinsley Dome Abandoned 6542 Feet

A 2-mile northeast outpost test to Tinsley Dome field abandoned; wildcat locations made in 4 Mississippi counties.

Tinsley Outpost: K. Hughes et al's Woodruff 1, C NE SE 19-11n-2w, Yazoo County, abnd 6542 ft; elevation 265 ft, Midway 4458 ft; Selma chalk 5260 ft; Eutaw 6048 ft; Lammons (Tuscaloosa) 6339 ft, salty sand 6081-6101 ft. Midway between Woodruff 1 and field proper, Slick-Urschel Oil Co.'s F. A. McGraw 1, seeking Perry sand, checking low, elevation 274 ft; Wilcox 2020 ft; Midway 4120 ft; Selma chalk 4985 ft; Woodruff zone dry in core 5187-6201 ft.

New Wildcats: Wildcat locations were staked in Lawrence, Stone, Wilkinson and Yazoo counties.

Michigan

State's Deepest in Trenton; Five More at Reed City

State's deepest test reaches Trenton; 5 more Monroe-lime wells completed at Reed City, ranging up to 3900-barrel potentials.

Deep Tests: Gulf's Bateson 1, Sec. 2-14n-4e, Bay County, logged Trenton 9400 ft, cored 9403-9413 ft, drilling hard lime 9515 ft, may go 10,500 ft for St. Peter.

Don Rayburn's Fox 1, Sec. 21-19n-3e, west flank Adams pool, Arenac County, deepened from 4300 to 4656 ft, hole cleaned itself of oil and water, refilling 1300 ft oil 10 hrs; had been producing from Monroe 10 weeks, averaging 18 bbls day on pump 4300 ft.

Seba Development Co.'s Zischke 1, Sec. 14-5n-3w, Clinton County wildcat, resumed drilling 4954 ft after two-month shutdown top of Niagaran; slated for 6500 ft to test Trenton, possibly St. Peter; showed oil 4952 ft.

Reed City: Producing wells doubled 5 to 10, all inside locations Reed City field. Gulf completed 5 of total, Pure 2, Weber Oil Co. 3. Wells scattered over 1¼-mile north-south area range from 600- to 10,000-bbl potential. Field prorated to 480 bbls per-well per-day; 22 drilling rigs active.

California

Raisin City's Second Well Encourages More Drilling

Second well completed in Raisin City field, Fresno County, resulting in additional tests; Kern County deep test suspends.

Raisin City: Shell's Santa Ana & Fresno Lands 1-19, Sec. 19-15-18, second test Raisin City, flowed 743 bbls 24.3-gr oil, 22/64-in choke, 5022-49 ft. Operator staked third test 660 ft north discovery. Seaboard Oil Co. and Tide Water Associated Oil Co. staked joint project Sec. 13-15-17; Bandini Petroleum Co. and Barnsdall Oil Co. prepared stakes in area.

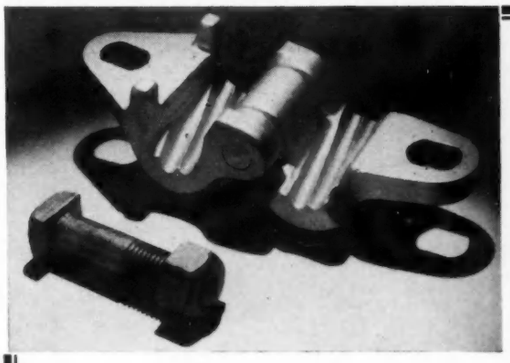
Kern County: Texas Co.'s S. P. 47-15, Sec. 15-19-24, Buttonwillow-West Greeley area, suspended at 12,138 ft after testing 4946-50, 4360-65 and 4220-25 ft. Superior Oil Co.'s KCL 13, wildcat, drilling sand and shale 12,015 ft, occasional spot coring.

Scattered Tests: Holly Sugar Co. abandoned gas test Sec. 32-22-1, Orland area, Glenn County, 4349 ft, mechanical trouble. Robert S. Lytle located Anderson 2, Sec. 1-3-14, Athens area, Los Angeles County, offsetting abandoned Anderson 1, which blew out from shallow zone while drilling 8000 ft. Temulac Oil Co. acquired 810-acre Calumet lease, Bardsdale field, Ventura County, including 10 wells, obligated to drill 4 additional tests immediately and deep test 18 months.

Michigan Coal Group Protests Pipe-Line Project

The Michigan Retail Coal Merchants Association has filed a petition with the State Public Service Commission to set aside an order for Consumers Power Company and Panhandle Eastern Pipe Line Company's $6,000,000 natural gas line construction and marketing program.

What, if any, action the commission will take was problematical. An order approving the plan, rates and pipe-line necessity permits was granted after hearing June 23. Construction is now underway by Consumers on a 14-mile loop, and Panhandle is purchasing right-of-way for a 250-mile main line.



WE'RE CUTTING OUR PRICE

Because Volume Production Has Cut Our Cost!

This snug fitting, tight gripping clamp with grooves . . . not wrinkles . . . with only one bolt, and with assurance against line kinking, is the answer to your wire line clamp problem. Hold that line . . . with BUCK CLAMPS!

The oil industry will welcome this unusual announcement . . . a drastic price reduction right in the middle of rising prices. Effective now, we're making a material decrease in all BUCK CLAMP prices to the trade. The quick, widespread acceptance of this revolutionary wire line clamp has made possible this reduction. Volume production has greatly reduced our costs, and we're passing the difference along to you. Your supply store can now furnish *upon order* your complete wire line clamp requirements at the new, surprisingly low BUCK CLAMP prices.

Buck Clamp Company
3714 NAVIGATION BLVD.
HOUSTON, TEXAS

UNITED STATES WELL COMPLETIONS

Company, Well and Location	Init. Prod. Bbls.	Depth
Arkansas		
Union County (El Dorado)—		
Consolidated Pet. Corp., Jerry 1, 14-18-14	16	2268
Union County (Smackover)—		
Bob Milam, Holloway 2, 7-16-16..	*	2620
Union County (Urania)—		
Marine Oil Co., Thompson A-17, 31-18-13	250	3006
California		
Fresno County (Raisin City)—		
Shell, Sta. Ana & Fresno Land 1-19	743	5049
Fresno County (East Coalinga Eocene)—		
Robert S. Lytle, No. 68-7F	2100	7993
Standard, No. 41-31B	2586	8192
Fresno County (Kettleman North Dome)—		
KNDA, No. 314-28J	136	10495
No. 7-12P	12	7950
Kern County (Greeley)—		
Standard, KCL 12-14	446	11510
Kern County (Kern River)—		
National Oil Co., No. 27	15	925
Kern County (McKittrick)—		
Franco-Western Oil Co., No. 23	185	2340
Kern County (Ten Section)—		
Shell, KCL A-64-30	1896	8210
Los Angeles County (Athens area)—		
Robert S. Lytle, Anderson 1	*	8087
Los Angeles County (Castaic area)—		
Barnsdall, Honor Ranch A-19-1	¶	7768
Los Angeles County (Dominguez)—		
Johnson-Richardson & Assoc., Clemar 1	150	7247
LeBow-McNee Oil Co., Bouska 1..	*	7308
Shell, Reyes 121	160	4260
West Dominguez Assoc., Gross 1..	*	7302
Los Angeles County (Long Beach)—		
Royalty Service Corp., Burgess 1..	*	9070
Shell, Hamilton 5-A	169	5300
Los Angeles County (Wilmington)—		
A. D. Mitchell, Lagoon 2	140	3715
Ring Oil Co., Wilmington 6	158	3575
Seashore Oil Co., Gremac 9	1465	3660
Union Pacific, UP 192	no Est.	3560
Los Angeles County (Torrance)—		
J. E. O'Donnell, No. 74	20	3730
Silver Pet. Co., No. 3	100	3474
Santa Barbara County (Santa Maria Valley)—		
Pacific Western, Carranza 1	2000	4657
Signal O. & G., Newlove 4	40	4573
Union, Mahoney 4	1624	2710
Ventura County (Rincon)—		
Richfield, Hobson US 3 (pb 4476)..	107	4750
Ventura County (Ventura Avenue)—		
Alliance Pet. Corp., Hisey 4	1500	9266
Tide Water, VL & W 48	980	9880
OLD WELLS DEEPENED		
Los Angeles County (Long Beach)—		
Richfield, Malcolm-Davis 7 (otd 2477)	No. Est.	2575
Orange County (Huntington Beach)—		
V. R. G. Wilbur, Twining 3 (otd 3726)	85	4595
Illinois		
Bond County—		
Texas Co., Mull 1, nw sw nw 15-6n-2w	*	2476
Clay County—		
Pure, Smith "B" 13, se ne sw 7-2n-8e	5	2675
Price 4, c e½ ne sw 15-2n-8e	269	3065
Texas, Cox 1, sw sw nw 16-5n-5e..	25	2382
Franklin County—		
Nation, Kelly 1, ne sw ne 23-6s-2e.	120	2130
Glenn Johnson, Miller 1, w½ ne nw nw 25-6s-2e	205	2110
Menhall, Moore 4, nw sw nw 25-6s-2e	304	2152
Moore 5, s½ sw sw nw 25-6s-2e	296	2146
Moore 6, n½ ne nw sw 25-6s-2e	298	2167
Unger, Dye 1, se se ne 25-6s-2e	130	2150
H. H. Wegener, C. W. F. Coal et al 4, nw sw sw 25-6s-2e	410	2165
Mosebach, Lager 1, ne ne ne 35-6s-2e	384	2147
Adkins, C. W. F. Coal "W" 5, n½ ne ne sw 36-6s-2e	494	2132
Shell, C. W. F. Coal "R" 11, w½ nw nw 36-6s-2e	586	2171
Fayette County—		
Sunray Oil Co., Boye 1, sw sw nw 23-5n-2e	*	2200
Zephyr Dr. Co., Owens 2, s½ sw ne se 31-6n-3e	38	1633
Stevens 8, s½ se sw ne 31-6n-3e	30	1634
Carter Oil, Durbin 7, se se nw ne 4-7n-3e	82	1579
Mills 3, ne sw se 4-7n-3e	33	1556
Shaw 6, sw ne ne 17-7n-3e	38	1594
Griffith 14, nw nw ne 31-7n-3e	138	1572
Buzzard 2, nw ne ne 3-8n-3e	48	1538
Dial 2, ne se ne 12-8n-3e	15	1562
Doty 2, nw ne ne 12-8n-3e	48	1485
Oils, Inc., Wood 2-D, w½ se se 16-8n-3e	275	3208
C. Pruitt, Buzzard 1, se se se ne 34-9n-3e	*	1625
Gallatin County—		
Vandenburg, Browning 1, ne nw se 10-8s-10e	*	2841
Leach & Halbert, Curry 5, se sw nw 15-8s-10e	208	2080
Curry 7, se nw nw 15-8s-10e	235	2081
Curry 9, 15-8s-10e	12	795
Buell & Herndon, Egy. T. & T. 4, w½ se nw se 16-8s-10e	*	856
Leach & Fuhrer, Egy. T. & T. 6, se ne se 16-8s-10e	160	2095
Hamilton County—		
Ohio Oil, 1st Natl Bank 1, nw se se nw 3-5s-7e	*	3587
Pure, Mayberry 1, ne sw se 7-6s-7e	83	3035
Shell, Ritcheson 1, nw sw ne 7-6s-7e	42	3120
Ritcheson 2, sw sw ne 7-6s-7e.	379	2990
Texas, Davis 4, ne se nw 7-6s-7e..	208	2987
Davis 6, se nw ne 7-6s-7e	696	2980
Jasper County—		
Pure, Fehrenbacher 2, c w½ sw sw 8-5n-10e	772	2835
Shinn 6, c e½ nw ne 8-5n-10e	370	2830
Brothers 1, c e½ sw nw 16-5n-10e	*	2825
Parnell 1, c e½ se ne 18-5n-10e	923	2860
Lawrence County—		
Chet Everts, Catt 1-A, sw se sw 23-2n-12w	*	2200
Macoupin County—		
Adams-Laegers, Brostow 1, sw sw sw nw 8-11n-7w	*	1435
Marion County—		
T. R. Kerwin et al, Glaser 1, s½ se sw 2-1n-3w	*	1340
Texas Co., McClelland 1, c s½ sw ne 18-2n-2e	*	3600
Shell, Clark "A" 4, se ne se 34-4n-1e	65	1367
Headley 5, nw nw ne 34-4n-1e..	35	1364
Gulf, Stevens 1, sw ne nw 35-4n-1e	32	1370
Highland Oil Co., Thalman Est. 2, se nw nw 35-4n-1e	84	1367
Perry County—		
Ruwaldt et al, Fulk 1, ne ne sw 15-4n-4w	*	1450
Kingwood Oil, Marlow 1, sw nw sw 15-5s-2w	*	1607
Richland County—		
Delta Prod. Co., Bull 1 c n½ se ne 28-3n-9e	*	3123
Shelby County—		
Nat'l. Pet. Co., Montooth 1, se se se 2-9n-2e	*	2043
Wabash County—		
Kneipp & Bauligman, Price 1, n½ ne ne sw 14-1n-12w	40	1640

*Failures; †Junked; ¶Million cu. ft. gas.

Summary of Drilling Operations in the United States, Week Ended August 2, 1941

	WELLS COMPLETED								*PERMITS FOR NEW WELLS				
		New Wells Drilled for Oil and Gas											
	Total for Week	Oil Wells	Gas Wells	Failures	†Miscellaneous	Initial Production	Total 1941	Total this Date 1940	This Week	Total this Month	Total 1941	Total this Date 1940	Year Total 1940
Alabama							1	3					
Arkansas	3	2		1		266	96	114	2	20	105	87	153
California	31	27		4		16,817	690	677	30	136	680	643	1,042
Colorado							10	4					
Florida								1					
Georgia							1						
Illinois	109	81		26	2	17,075	2,103	2,342	122	518	2,661	2,680	4,532
Indiana							299	252		49	94‡		
Iowa							2						
Kansas	58	38	1	19		45,472	1,301	1,148	45	230	1,349	1,221	2,048
Kentucky							169	191		26	47‡		
Louisiana	30	21	2	7		4,322	834	1,025	35	187	1,023	993	1,658
Michigan	18	8	4	6		9,809	476	762	23	102	503	683	1,093
Mississippi	1			1		6,542	103	114					
*Missouri							33	7		1	9		26
Montana							109	108					
*Nebraska	1			1			49	1	4	9	56		69
New Mexico	6	2		4		400	206	431	8	47	249	385	559
New York	26	20			6	150	524	636					
Ohio	26	4	16	6		350	953	513					
Oklahoma	37	24	3	9	1	7,654	1,220	1,301	45	262	1,278	1,097	1,888
Pennsylvania	59	43	9	1	6	56	2,180	2,264					
South Dakota								1					
Tennessee							7	8					
Texas	215	170	4	22	19	77,576	5,867	6,258	299	1,441	7,159	7,131	11,170
Utah							1	2					
West Virginia	10		7	3			380	327			163	452	782
Wyoming							66	88				1	1
Total this week	630	440	46	110	34	186,489	17,680	18,578	613	3,028	15,376	15,373	25,021
Total last week	667	465	50	133	19	193,262	17,050	18,041	574	2,415	14,763	14,931	25,021
Total this year	17,680	10,911	1,296	3,874	1,599	5,014,661							

* This tabulation includes those states where weekly data are available; figures for Missouri date from August 10, 1940; Nebraska from August 3, 1940.
‡ No data available before June 14, 1941.
† Includes old wells deepened, water-intake, gas input and salt water disposal wells.

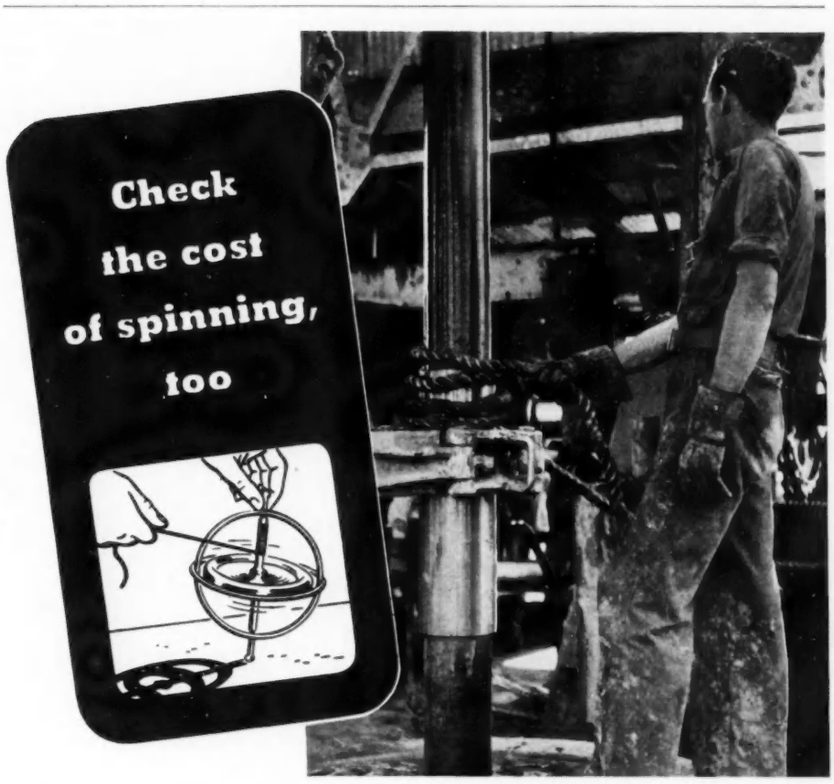
United States Well Completions—*Continued*

Company, Well and Location	Init. Prod. Bbls.	Depth
J. R. Less, McGregor 1, lot 449, 20-1s-12	150	2054
H. G. Aspin, Olendorf 1, se ne nw sw 21-1s-12w	60	2018
E. O. Olds et al, Parkinson 1, n½ sw ne sw 21-1s-12w	75	2338
E. O. Olds, Trimble 1, e ½ nw sw nw 21-1s-12w	60	2066
Washington County—		
Gulf, Mascholl 1, se se sw 10-1s-1w	146	1531
Wayne County—		
Wiser Oil, Hilliard 1, s½ se sw 27-1n-6e	2406	3985
Pure, Gordon-Perry "A" 1, c w½ ne nw 12-1n-7e	106	3060
C. Bates "A" 4, c w½ se ne 8-1n-8e	•	3103
Reid 1, c w½ ne se 36-2n-7e	106	3030
Liston 1, w½ ne ne 22-1s-8e	•	3200
J. W. Sanders et al, Hubbell 4, sw nw se 30-2n-8e	30	3053
Roach & Voyles, Carson "A" 3, s½ sw sw 34-1s-7e	107	3279
C. Crosby et al, Murphy 1, e½ sw ne 15-3s-5e	•	3432
Sinclair-Wyo., Zellers 1, sw sw sw 26-3s-5e	•	3343
Seaboard, Garrison 1, s½ sw nw 27-3s-5e	560	3306
Shell, Radcliffe Comm. 1, n½ sw sw 27-3s-5e	100	3312
White County—		
Mabee Dr. Co., Smith 3, se sw sw 4-4s-14w	112	2713
Weas 1, ne se sw 10-7s-9e	•	2304
Knight 1-A, s½ ne se sw 10-7s-9e	18	2276
Paul Miller, Ford Heirs 6-A, nw se sw 16-4s-14w	50	2970
Sinclair-Wyo., Donald 2, sw se sw 21-4s-14w	180	2845
Donald 4, sw ne sw 21-4s-14w	219	2865
Donald 3, ne nw nw 28-4s-14w	215	2859
Sinclair-Wyo.-Ohio, Rudolph 11, ne sw sw 12-6s-9e	150	2271
Superior, Ford "C" 14, se sw sw 27-4s-14w	40	2954
Fitton 11, nw ne nw 28-4s-14w	250	2860
Ford 19, c n½ ne sw 28-4s-14w	120	2725
Fulton "A" 15, sw nw nw 33-4s-14w	150	2855
Ford "D" 10, nw se nw 34-4s-14w	75	2915
Sun & Ellis, Jacobs "A" 8, c s½ ne 28-4s-14w	100	2143
Tide Water, Dennis 20, ne se ne 33-4s-14w	133	2841
Dennis 24, se nw nw ne 33-4s-14w	40	2841
Dennis 25, c n½ n½ ne 33-4s-14w	70	2735
Shain 3, nw ne se 23-6s-8e	104	2543
Skelly et al, Reinwald et al 1, nw nw nw 25-4s-9e	•	3360
J. C. Meyers, Leathers 1, se sw ne 12-4s-10e	•	3200
J. Hal Jones, Sanders 1, ne nw se 12-4s-10e	•	1825
Millison Bros., Chamber 1, nw nw sw 30-5s-14w	•	3111
Pure & Carter, Kesner 1, se se se 7-6s-9e	134	3193
Cherry & Kidd, Karch 3, se ne sw 24-6s-10e	170	2887
Karch 4, nw se nw 24-6s-10e	200	2990
Kidd & Lambert, Karch 2, ne se nw 24-6s-10e	200	2865
Magnolia, Sisson-Higgins 2, sw nw se 24-6s-10e	595	2259
Fisher Oil et al, Ellis 2, nw sw se 11-7s-8e	550	2157
Ellis 5, se sw se 11-7s-8e	182	2117
Kingwood-Sinclair, McKenzie 2, sw nw sw 12-7s-8e	359	2752
Williamson County—		
Arrow Dr. Co., Fuller 1, nw sw se 31-8s-4e	•	2944
GAS INPUT WELLS		
Fayette County—		
Carter Oil, Algood 2-3, c nw 2-4n-3e		1635
Brooks 23-6, nwc nw se 23-8n-3e (pb 1525)	..	1535
OLD WELLS DEEPENED		
Hamilton County—		
Texas, Davis 1, nw nw ne 7-6s-7e (otd 2759)	465	2982
Madison County—		
Alspach, Smith 1, sw sw sw se 31-3s-6w (otd 1415)	•	1715
Marion County—		
Magnolia, W. B. Young 32, se sw ne 20-2n-2e (otd 3440)	85	4622
Texas Co., Richardson 15, nw sw nw 32-2n-2e (otd 3350)	35	4570
Wayman 28, sw nw nw 32-2n-2e (otd 3350)	100	4570

Kansas

Company, Well and Location	Init. Prod. Bbls.	Depth
Barber County—		
Olson Oil Co., Knuckles "A" 3, c se sw 30-31-11w	394	4290
Barton County—		
Derby, Bernstorf-Janke 6, sw ne 33-16-11w	3000	3348
Shell, Harzman 3, sw ne nw 33-16-11w	2168	3360
Sinclair-Prairie, Hoffman 8, nw se ne 7-16-13w	3000	3373
T. C. Johnson, Bitter 11, nec nw 8-16-13w	158	3383
Ash et al, Koch "A" 2, c w½ sw nw 7-20-11w	636	3363
Texas, Koch 2, c e½ sw sw 7-20-11w	3000	3324
Burmeister "A" 6, c w½ se sw 2-17-11w	340	3390
Ziegenbusch 2, c s½ sw ne 23-19-11w	•	3428
Butler County—		
Wilson Oil Co., Wilson 3, c e½ ne sw 12-25-3e	25	2670
W-K Roy. Co., Hess 1, nec nw 18-26-5e	•	2452
Prunty, Anderson 3, c s½ nw ne 6-27-4e	50	2921
Jim Woods et al, McLean 6, c sw sw 5-27-6e	•	3171
I. W. Murfin, Knoll 1, se ne sw 13-29-3e	•	2275
Coffey County—		
Aikman & Braden, Isch 2, c s½ sw sw 11-22-13e	•	1854
Cowley County—		
Ingling & Parker, Sailing 1, nec sw 29-32-5e	•	3153
Ellis County—		
Dickey, Carmichael "C" 5, c n½ se nw 17-11-17w	3000	3356
Husted 7, c w½ se sw 18-11-17w	•	3423
Champlin, Peavey 1, c s½ sw ne 19-11-17w	•	3698
Cities Service, Collahan "B" 5, se nw ne 25-11-17w	3000	3382
R. G. Berry et al, Carmichael 1, c n½ nw se 11-11-18w	3000	3427
Transwestern, Carmichael 1, c e½ sw se 11-11-18w	3000	3426
Darby, Peavey "A" 8, c w½ sw sw 13-11-18w	3000	3427

[*Continued on next page*]



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Plymouth Spinning Lines are made of the same specially selected high-grade fiber that gives the spring and long life to Plymouth Drilling Cables. Lubrication and lay have been carefully developed from actual experience in the oil fields, and they are exactly right for spinning. Plymouth spinning lines will save time in stringing drill pipe and casing, and give you more time running in the hole. They are conveniently packaged ready for use.

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PLYMOUTH MANILA

Drilling Cables	Torpedo Lines
Crackers	*Cathead Lines
Bull Ropes	*Spinning Lines

For greater operating efficiency, safety, and economy be sure to specify "*PLYMOUTH*"

*Plymouth cathead and spinning lines are individually packaged.

PLYMOUTH CORDAGE COMPANY
North Plymouth, Massachusetts

Distributors: Oil Well Supply Co. Over 90 stores in all fields with ample stocks of Plymouth Oil Well Cordage immediately available at all times.

PLYMOUTH
THE *Rope* YOU CAN TRUST

United States Well Completions—*Continued*

Company, Well and Location	Init. Prod. Bbls.	Depth

KANSAS—Continued

Ray Cargill, Conrad 1, c e½ ne nw 14-11-18w ..... * 3465
A. H. Witt, Bieker 1, c e½ se se 35-12-16w ..... * 3512
Ellsworth County—
Derby et al, Lank 1, swc ne 9-16-10w 3000 3267
Pryor & Lockhart et al, Stratton 8, c n½ sw ne 2-17-10w 217 3309
Texas, Schroeder 5, c n½ nw sw 27-16-10w 374 3303
Greenwood County—
Sinclair Prairie, Seeley "C" 13, c se 5-23-11e (pb 2008) 8 2015
A. Marcus, Shook 2, c sw se 31-23-12e 30 1885
N. C. Dunne, Keller 3, se ne sw 22-26-13e ..... * 1506
Selby, Wingrave 8, nw se se 16-28-11e 10 1156
Marion County—
Ring-Mac, Hajek 2, c e½ ne sw 33-17-4e 314 2414
Pawnee County—
Hall-Jordan, Smith 1, c w½ sw se 12-20-16w 3000 3836
Phillips County—
Lario, Bard 1, c s½ se nw 27-3-20w ..... * 3802
Aladdin, Wiltrout 1, c s½ se ne 18-5-20w ..... * 3560
Reno County—
Skelly, Linscheid 1, c s½ se nw 24-24-8w 381 3545
Russell County—
Palmer, Borrell 7, se nw se 21-13-14w 942 3286
Stanolind, Missimer 1, c e½ se ne 22-14-13w ..... * 3271
J. J. Hall, Miller "D" 16, c s½ se ne 31-14-13w 209 3111
Carter, Josephine 6, sec 7-15-13w .. 299 2974
Detrich 14, sec sw 8-15-13w 625 2947
Continental, Meharg 10, cel ne sw ne 17-15-13w 1713 3288
Derby et al, Berry 2, c n½ sw ne 33-15-13w 148 3349
Jack Shaffer, Vonfelt 1, c e½ se nw 6-15-14w 336 2966
Texas, Kaufman 2, c n½ ne nw 9-15-12w 328 3293
Stafford County—
E. F. Moran et al, Sittner 2-A, nw se se 35-21-12w ..... * 3712
McMorrow et al, Williams 1, c e½ ne se 11-22-14w ..... * 3875
Phillips, Tretbar 6, c n½ sw ne 12-24-11w 629 3752
Stanolind, Ferris "A" 6, c w½ se se 15-24-11w 1593 3832
Cities Service, Neeland "A" 2-A, nw sw se ne 16-25-14w ..... * 3901
Texas, Gerdes 1, nw ne sw 28-23-12w 3000 3850
Douglas County—
J. B. Epperson et al, Howard 1, c se nw 25-13-19e ..... * 1205
Jefferson County—
Ray Anderson, Woodhead 1, c ne sw 32-9-20e ..... ¶13.05 1505
McLaughlin & Young, McLeod 2, nwc sw 4-10-20e 20 1596

OLD WELLS DEEPENED

Russell County—
Texas, Brandenberg 3, sw nw nw 20-14-14w (otd 3020) 480 3072
Brandenberg 4, nw sw nw 20-14-14w (otd 3031) 45 3072
Stafford County—
Derby, McComb 5, sw nw nw 24-24-11w (otd 3813) ..... * 3843

South Louisiana

Acadia Parish (Jennings)—
Shell, Conover 16 ..... 337 8398
Acadia Parish (South Crowley)—
Humble, Leger et al 4 ..... ¶130 8275
Avoyelles Parish (Eola)—
S. W. Richardson, Haas C-1 ..... * 11,935
Evangeline Parish (Pine Prairie)—
Gulf, Evangeline 2-A 471 8354
Evangeline Parish (Ville Platte)—
Continental, Evangeline Tr. 2, No. 2 ..... 367 10,244
Danciger, Vidrine 6 ..... 248 10,124
Iberville Parish (St. Gabriel)—
Echols, Gueymard B-1 ..... 210 7806
Iberville Parish (White Castle)—
Shell, Baist Cooperage 2 ..... * 9400
La Fourche Parish (Wildcat)—
Gulf, State 1 (Bay Marchand area) * 3004
La Fourche Parish (Golden Meadow)—
Bateman Drlg. Co., Collins 1 ..... 165 5493
Texas Co., Templain & Talbot 1 .. * 3922
Plaquemines Parish (Potash Dome)—
Humble, Orleans Levee Bd 52 .... 389 843)
Plaquemines Parish (West Bay)—
Gulf, Buras Levee Dist. E-2 ..... 369 7313
Buras Levee Dist. E-4 ..... 146 7321
St. Martin Parish (Anse La Butte)—
Bering O Co., Anse La Butte Dev. Co. 1 ..... * 5822
Stanolind, Rycade 2 ..... 240 6575
Tortoris 1 ..... 222 6488
Vermilion Parish (Abbeville)—
Buckley, Consolidated Warehouse 1 57 6439

North Louisiana

Caddo Parish (Pine Island)—
M. H. Marshall, Goodwin 3, 33-21n-15w 20 1585
McDonald & Campbell, Youree Est. 19, 13-20n-15w ..... * 2285
Southern O & G Co., Stiles 3, 32-21n-16w 230 2400
Weaver-Perry Oil Co., Pardue 12, 33-21n-15w 10 1660
Claiborne Parish (Homer)—
M. E. Florence, Shaw-Barnes 1, 30-21n-7w ..... * 2240
Claiborne Parish (Sugar Creek)—
Carter Oil, Simms 3, 32-20n-5w .... ¶20 5832
La Salle Parish (Little Creek)—
Placid Oil Co., Halle 2, 32-9n-2e .. 245 2720
La Salle Parish (Nebo-Jena)—
H. L. Hunt, Goodpine A-28, 16-7n-3e 160 4217
La Salle Parish (Olla)—
Placid Oil Co., La., Central Lbr. 102, 2-9n-2e 195 2447
La Salle Parish (South Olla)—
H. L. Hunt, Southern Kraft Corp. 2, 13-9n-2e 40 3515
La Salle Parish (Catahoula Lake)—
Carter Oil et al, La Delta Hdw. 2, 12-6n-4e 189 5216
Sabine Parish (Pleasant Hill)—
Pace Pet. Co., Logan B-2, 21-10n-12w 12 3385

Michigan

Allegan County—
C. L. Stoskopf, Wolbrink 1, ne nw sw 4-2n-16w ..... * 1341
W. S. Cook, Otaman 1, nw se ne 3-1n-12w ..... * 1523
Arenac County—
Don Rayburn, State 1, se se nw 9-19n-3e ..... * 3136
Clare County—
Sun, McKenna 2, c s½ ne sw 15-19n-3w 21.0 1278
Gladwin County—
Columbia Oil Co., Bebe 1, se se se 28-17n-2w ..... * 1640
Stork Oil Co., Sishterman 1, ne nw nw 29-17n-2e 25 3555
Isabella County—
Fletcher & Leman, Sanders 1, c ne 25-14n-6w ..... ¶0.5 1340
L & S Dr. Co., Winesburgh 2, ne nw se 19-14n-5w ..... ¶2.25 1297
Montcalm County—
Belvidere Oil Co., Keeler 1, c se 7-12n-5w ..... ¶0.75 1248
Osceola County—
Gulf, Wilson 1, c s½ nw se 30-18n-10w 2000 3599
Henry 2, se se nw 31-18n-10w 1200 3612
Henry 3, c s½ ne nw, 31-18n-10w . 2000 3626
Henry 4, c n½ se nw, 31-18n-10w 595 3623
Pure Oil, Lomp 1, nw nw ne 31-18n-10w 3900 3620
Ottawa County—
F. M. Douglass, McKay 2, se ne nw 26-7n-13w 14 1862
Van Buren County—
M. W. Hyenga, Fee 1, sw sw se 32-2s-16w ..... * 1502
W. E. Dotson, Holdman 1, ne ne ne 11-1s-14w 75 1282
Lang & Lewis, Peterson 1, ne sw se 26-1s-17w ..... * 1110

Mississippi

Yazoo County (Tinsley Dome)—
K. Hughes et al, Woodruff 1, 19-11n-2w ..... * 6542

New York

Allegany County—
Trio Oil Co., Durham-Wetherby farm, Bolivar 15 1258
B. & B. Oil Co., Curtis farm, Bolivar 7 1371
R. B. Moore et al, Brocaw farm, Bolivar 6 1277
Putnam Oil Co., Birtoil farm, Wirt 8 1429
Messer Oil Co., Shaner farm, Bolivar 10 1546
Dermitt & Gilligan, Gilligan farm, Bolivar 11 1326
Star Oil Co., Neff farm, Bolivar .. 8 1254
Porge Oil Co., Reid farm, Alma ... 7 1370
Bradley Prod. Corp., Duke farm, Alma 6 1513
Hardy & McBride, Garthwaite farm, Alma 10 1355
Roy E. Vossler, McEmroe farm, Alma 4 1249
O. D. Underwood et al, McDivitt farm, Bolivar 7 1387
Nova Oil Co., Brown farm, Alma . 8 1347
Carl Oil Co., Harris farm, Scio 7 852
I. & H. Co., Peterson farm, Wirt 8 1466
Clair Oil Co., Carrier farm, Wirt 5 1377
F. J. Wilson, Burdick farm, Wirt 6 1424
Sawnet Oil Co., Merritt farm, Genesee 5 1423
Deer Creek Oil Co., Wilson farm, Genesee 6 1430
Willetts & Paul Corp., Willetts farm, Genesee 6 1439

WATER INTAKE WELLS

Allegany County—
N. V. V. Franchot, Murphy farm, Bolivar 1369
C. M. Robinson et al, Robinson farm, Scio 1056
L. E. Norton, Coats farm, Scio 1076
Bradley Prod. Corp., Fitz-Carrol farm, Bolivar 1349
Hopkins, Short Bros. et al, Clark farm, Independence 1258
Bliven Hill Oil Co., McEwen-Norton farm, Scio 947

New Mexico

Eddy County (Wildcat)—
Wm. D. Flynn et al, Evans 1, swc se 18-17s-25e ..... * 958
Eddy County—
R. J. Johnson et al, Travis 3, se sw nw 25-17s-27e ..... * 540
Ployhar et al, State-Spurck 4, se ne nw 24-17s-27e ..... * 475
Stroup & Yates, Ballard 3-B, ne sw sw 8-18s-29e 250 2485
Lea County (Maljamar)—
Carper Dr. Co., Simon 2-R, c nw se 30-17s-32e 150 3890
Lea County (Penrose)—
Parker Dr. Co., State-Humble 2-C, c s½ nw se 2-22s-37e ..... * 3773

Ohio

Athens County—
A. D. Townsend, Fraction 5 ..... ¶0.45 1687
Bern O. & G., Thompson 2 ..... ¶0.32 962
Hartley et al, Niggemeyer 1 ..... * 1640
Belmont County—
Barnesville Dev., Wilson 2 ..... ¶0.08 1190
Fairfield County—
City Nat. Gas, Boal 1 ..... ¶0.28 2474
Gallia County—
C. A. Cody, Haskins 1 ..... ¶0.09 1690
Guernsey County—
Ronshausen, Lehman 1 ..... ¶0.05 1093
Holmes County—
Ohio Fuel, Michael 2 ..... ¶0.88 3200
Knox County—
Ohio Fuel, Whitney 1 ..... ¶0.6 2900
Knox Exploration, Workman 1 .... ¶0.09 2760
Licking County—
Ohio Fuel Gas, Evans 1 ..... ¶1.48 2764
Allen Willey et al, Nethers 1 .... ¶0.24 2764
Hulse-Kundtz, Bell 1 ..... ¶0.1 2265
Medina County—
Preston Oil, Billman 1 ..... 50 472
Messner 1 ..... * 300
Ohio Fuel, Hier 2 ..... ¶1.56 3587
Meigs County—
H. M. Nelson, Grim 1 ..... * 740
Monroe County—
Hines Oil, Hines 1 ..... ¶0.12 1170
Muskingum County—
Industrial Gas, Bailey 2 ..... ¶1.15 4071
W.W. Wasson, Clinger 1 ..... * 3985
Noble County—
Everett Parks et al, Leasure 3 .... 5 219
Perry County—
Palm Oil Corp., Amrine 2 ..... 140 3315
Preston Oil, Cookson 4 ..... 155 3325
Washington County—
Triple O. & G., Hall 2 ..... ¶0.1 1135
R. R. Ullman, Payne 1 ..... * 950
Wayne County—
Ohio Fuel Gas, Aber 1 ..... * 3058

Oklahoma

Carter County—
Gibson & Jennings, Herrell "A" 7, sw nw sw nw 20-4s-2w 944 2210
Creek County—
Lewis, Foushee 1, ne nw nw 5-14n-7e ..... * 2880
Bryan, Stephney 1, nw sw nw 35-14n-7e 160 3946
C. E. Beal, Johnson 1-A, ne ne nw ne 36-14n-9e ..... * 2350
Devonian, Hamilton 2, swc se 32-15n-7e 128 2834
Shell, Jones 9, nw sw sw 32-15n-7e 384 2900
Summit, Fisher 2, nwc se 32-15n-7e 250 2811
Freeland Bros., Bell 1, se sw nw sw 16-17n-8e (pb 2319) ..... ¶1.5 2349
Hughes County—
Magnolia, McKoy 2-A, sec 16-5n-11e ..... * 5700
Commercial Dr. Co., Bryant 1, nw ne sw 9-6n-8e ..... * 2799
Kiowa County—
H. L. Sherman, Watkins "B" 1, sec 18-7n-17w 480 1190
Watkins "B" 2, sw se se 18-7n-17w 1200 1042

United States Well Completions—*Continued*

Company, Well and Location	Init. Prod. Bbls.	Depth
Logan County—		
Continental et al, Linninger 1, sw se sw 17-15n-3w (pb 6250)	192	6422
Suits 1, sec nw 7-17n-1w	348	5496
Suits 3, sw se nw 7-17n-1w	805	5503
Ray Diehl et al, Pollard 1, c sw sw 27-18n-4w	*	4900
Okfuskee County—		
W. A. Flemming, McKinney 2-A, c sw se 18-10n-11e	¶4.0	1141
Phillips, Replogle 1, se sw nw 26-12n-8e	216	3702
Texas, Fixico 1, c s½ sw nw 15-12n-9e	46	3360
Oklahoma County—		
British-American, Shields 1, se ne nw sw 15-11n-3w	584	6518
Okmulgee County—		
Selby, Flint 11-A, ne ne se nw 26-14n-14e	¶0.25	550
Osage County—		
Keener 1, sw swc 20-22n-9e	*	1275
Oklahoma Nat. et al, 1, sec sw 24-22n-9e	258	2465
Pawnee County—		
Hyde & Stormfeltz, Pawnee Tribe 1-A, sw se nw 33-22n-5e	*	3200
Pittsburg County—		
S. J. Campbell, Johns 1, c sw nw 20-3n-12e	*	1490
Pottawatomie County—		
Farmers Mutual, Waite 1, sw nw se 9-5n-5e	300	2454
Gulf, Johnson 3, sw nw ne 7-7n-4e (pb 4061)	40	4065
Barnsdall, Gregory 2, nw sw sw 29-8n-4e	80	4450
Stanolind-Amerada, Dickerson 1, ne se 23-9n-4e	85	4458
H. G. Marshall, Montgomery 1, swc se 36-10n-3e	*	5310
Seminole County—		
Winona, Brown 1, ne nw ne 25-10n-7e	310	3579
Shell, Keyes "B" 1, swc ne 22-11n-8e (pb 4235)	567	4371
Stephens County—		
Cities Service, Brukleo 10, ne nw nw 4-2s-8w	6	2328
C. W. Tomlinson, Fobb "C" 4, se nw sw se 12-2s-8w	2	2100
G. L. Pace, McMasters "B" 1, se sw ne 13-2s-8w	125	2019
OLD WELLS DEEPENED		
Cleveland County—		
Sinclair Prairie, Franklin 4, nec se 21-10n-2w (otd 7233)	124	7268
Osage County—		
F. M. Pinney, 7, nw nwc se 15-24n-8e (otd 2298) (pb 2324)	20	2581
WATER INPUT WELL		
Osage County—		
Barnsdall, 3, nw nw sw ne 30-21n-9e, 3	...	385

Pennsylvania

BRADFORD DISTRICT		
Penn Valley Crude Oil No. 2, Fee	2	....
J. W. Coast, McCaffrey & Coast	½	....
Penn Valley Crude Corp., Fee	½	....
Boyle, Camp & Raymond, Bing 392	2	....
Smith, Newton Oil Co., Bloomer 4	5	....
Jentler et al, Duke	5	....
Forest Oil Corp.	1	....
Forest Pet. Corp., 2 wells	2	....
Niagara Oil Corp., 6 wells	6	....
Bradford Transit Co., 25 wells	25	....
Water Intake Wells—		
George Van Vechten & Son, Tarr	...	....
Forest Pet. Corp., 2 wells	...	....
Forest Oil Corp., 2 wells	...	....
Niagara Oil Corp.	...	....
NEW YORK-PENN GAS FIELD		
Leiderbach et al, Roose 1-B	¶	....
MIDDLE DISTRICT		
Fryburg Motor Co., McPherson	¶	....
Boles & Co., Furnace Tract	1	....
Titusville Trust Co. & Fleming, Lot 3192	½	....
Ohio Oil Co., Carnegie-Illinois	¶	....
BUTLER-ARMSTRONG DISTRICT		
Willis M. Ruby, Snyder	4	....
SOUTHWEST DISTRICT		
Armstrong County—		
Equitable Gas, Briney 1	¶0.06	3681
Wm. Collins, McCullough 1	*	3700
Clarion County—		
M. J. Rhea O&G, Munson 2	¶0.01	1420
Greene County—		
Greene County Gas, Lippincott 1	¶0.59	2767
Judson Bell et al, Gabler 1	¶0.21	1814
Peoples, Ullom 1	¶0.2	3491
Washington County—		
Equitable Gas, Watson 1	¶0.02	3157

West Central Texas

Brown County—		
Hightower O&R Co., Buckners Orphanage 2-B	¶1.5	1560
Callahan County (Wildcat)—		
L. A. Warren et al, Clinton 1-B	*	537
Jones County—		
M. J. Delaney et al, Short-Humble 1	478	3245
J. H. Sprouls & Co., Nichols 3	*	2145
Shackelford County (Wildcats)—		
R. H. Roark et al, Diller 1	*	1077
Elliott 1-A	¶2.5	2889
Shackelford County—		
Fain-McGaha Oil Corp., Morris 4	81	1498
E. Gillespie et al, Robinson 1	*	701
Stanfield & Tubbs, Clark 5	4	622
Westexas Oil & Roy. Co., Morris 1-B	6	1802

Texas Gulf Coast

Brazoria County (North Lochridge)—		
Williams & Mayo, Montrose 1	62	6365
Brazoria County (Danbury)—		
Burch Spears, Dannenbaum 1	*	2200
Brazoria County (Old Ocean)—		
Harrison & Abercrombie, Wilson 4	401	10,914
Dailey 2	205	10,840
Kaufman 1	403	10,367
Tide Water Associated, Stevenson 1	423	10,801
Chambers County (Barbers Hill)—		
Mills Bennett, Gulf Fisher 4-A	108	3872
Fort Bend County (Wildcat)—		
Providence Oil Co., Settegast 1	*	7970
Fort Bend County (Blue Ridge)—		
Mills Bennett, Luscher 6	231	3368
Hardin County (Saratoga)—		
H. L. Lewis, Gulf 2-A	10	683
Hardin County (Sour Lake)—		
R. S. Campbell, Texas 2	72	1631
Harris County (Humble)—		
J. H. Clay, Bender 26	30	1080
Harris County (Tomball)—		
Texas Co., Lewis 5	94	5562
Liberty County (Hull)—		
South Oil Co., Taylor 2	350	4155
Matagorda County (Markham)—		
Hamill & Hamill, Sisk B-8	246	3332

[*Continued on next page*]

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United States Well Completions—*Continued*

Company, Well and Location	Init. Prod. Bbls.	Depth

TEXAS GULF COAST—Continued

Matagorda County (Lucky)—
Stanolind, Wolf 1 ..... • 9500
Orange County (Orange)—
Dishman & Lucas, Bland 1..... 174 3145
Wharton County (Wildcat)—
Barnsdall & Sam G. Harrison, Wallace-Hancock 1 ..... • 7240
Wharton County (Withers Field)—
Texas Co., Pierce B-76..... 67 5560
Pierce C-96 ..... 86 5547

East Texas

Kilgore Area—
Jesbob Oil Co., Horton-Hale 3.... 960 3600
Horton-Hale 4 .....1200 3596
Sun, Elder 14.....1500 3579
Longview Area—
Atlantic Ref., Lee 19.....2000 3702
T. W. Lee et al, Castleberry 2.... • 3459
Philbro Properties & Lang, Sprouse 4 .....1200 3682
Stanolind, Davis 17-A.....1500 3597
Anderson County (Wildcat)—
R. H. & W. Oil Co., Saunders 1... • 5229
Anderson County (Long Lake)—
FHE Oil Co.-Carter & Gragg Oil Co., Palestine Airport 1-B..... 68 5361
Tex Harvey Oil Co., Cartmel 10... 114 5454
Limestone County (Mexia)—
A. O. Phillips & Lytle, Mills 1.... 7 3175
Smith County (Chapel Hill)—
Chapel Hill Gas System-A. G. Hill, Johnson 1 .....¶2.75 & 215 8176
Wood County (Hawkins)—
Hollandsworth Dr. Co., Wood Co. Cotton Oil Co. 1..... 524 4809
Humble, J. E. Green 1 (9.31-ac). 320 4813
Potter Bros. Lynch et al, Mutual Gin 1 ..... 528 4805
Rudco O&G Co., Bryan 1..... 472 4839
Texas Co., Cobb 1 (160¼-ac)..... 455 4910
Harrison County (Wildcat)—
Bay Oil Corp., Brown 1, W. O. Strickland sur ..... • 3000
Marion County (Pine Island)—
Dr. W. M. Blackshear, Watts 1, Jno. Speaker sur ..... • 2400

North Texas

Archer County (Wildcats)—
C. W. Snoddy et al, Carter 1 (pb 821) 3 1125
Young & Woody Dr. Co., Abercrombie 1 ..... • 1420
Archer County (Scotland)—
Shell, Coleman 2-A 1738 5200
Archer County—
Guy J. Brown et al, Perkins 2-E. 20 1034
Morgan & Turner, Carr 9..... 44 1420
Pet. Producers Co., King 16..... 38 1238
Phillips Pet. Co., Little-Novella 8 • 1689
C. C. Winfrey et al, Andrews 1... • 1041
Clay County (Wildcat)—
John C. Murphree et al, Byers 1. • 1220
Clay County—
Geo. Golden et al, Myers 2..... • 1222
C. Y. Gorman et al, Taylor 4.... 58 1117
Taylor 5 ..... 100 1130
Perkins & Culum, Taylor 12-A.. 176 1057
Stayton Oil Co., McGregor 13..... 21 1189
McGregor 16 ..... 63 1167
Cooke County (Wildcats)—
C. J. Bohner et al, Wickliffe 1... • 3350
Kingery Bros. Dr. Co., Wimmer 1. • 1602
E. L. Wilson et al, Gwynn 1..... • 1505
Cooke County (Bindel)—
Texas Co., Bindel 2..... 259 1882
Cooke County (Walnut Bend)—
Sinclair Prairie, Atkins 5..... 486 5021
Cooke County—
Thos. E. Nix et al, Flusche 4..... 17 802
Denton County—
D. S. Hager et al, Koenig 1..... • 1957
Jack County—
Harper & Knappenberger, Shoun 2 315 3051
Throckmorton County—
A. J. Bradford et al, McKeichan 1. • 649
McKeichan 2 ..... • 662
Helmerich & Payne, Inc., Howsley 1 ..... • 4226
Wichita County (K-M-A)—
Granite Trust Co., Martin 7..... 732 3855
W. H. Hammon-Hanlon-Buchanan, Fassett-Tuttle 51 ..... 488 4012
Hanlon & Buchanan, Fassett-Tuttle 13-E 150 3997
W. P. Lincoln-Leo Moore, Bradley 5 ..... 520 3858
Mid-Union Dr. Co., Fassett-Tuttle 9 ..... 280 4056
Geo. B. Ray et al, Waggoner Bros. 3-B 352 3780
Waggoner Bros. 4-B..... 304 3775
Texas Co., Thom 9..... 864 3856
Wichita County (K-M-A-Ellenberger)—
Buffalo Oil Co., Ferguson 4-E....1788 4305
Fain-McGaha Oil Corp., Griffin 2-C-E 1555 4378
Shell & Phillips Pet. Co., Griffin 25-E 2664 4342
Wichita County—
Akin-Dimock-Costley, Roller 1.... • 1651
Coppock & Coleman, Warren 7.... 80 1756
Fisher & Dudley, Warren 13..... † 1640
Underwood Oil Co., Stine 4..... 75 1316
Stine 5 ..... 85 1314
Wilbarger County (Fargo)—
Humble, McCaleb 2..... 960 4020
Wilbarger County (Harrold)—
Chas. H. Kadane-J. N. Fidel (Big Six), Orr 1 (pb 3315)..... 176 4412
Wilbarger County—
Paradise Oil Co., Waggoner Est. 6-AA 80 1893
Young County (Wildcats)—
W. A. Buttram et al, Ferguson-Smith 1 ..... • 590
W. R. Stafford et al, Wolverton 1 • 981
Young County—
L. T. Burns et al, Allison 1..... 725 4910
Fagadau-Rankin-Panhandle Ref., Harlan 1 ..... 394 2776
D. P. Holland et al, Morris 1..... 6 712
King Oil Co.-Phillips Pet. Co., Daniel 9 ..... 336 4896
W. F. Palmer et al, Marshall 3-B. • 967
Pemeta Oil Co., Swain 11..... 5 714
Sams & Prideaux, Prideaux 8.... • 665
OLD WELL DEEPENED
Clay County (Wildcat)—
Shell, Scaling 1 (otd 5436)..... • 6268

Southwest Texas

LAREDO DISTRICT
Duval County (Wildcat)—
Argo Oil Corp., Gonzales 1, new field .....¶10.0 6308
Duval County (Government Wells)—
Magnolia, Hahl-Southland 16..... 60 2294
Duval County (Lundell)—
Government Wells Oil Co., Lundell 52 .....¶11.5 1586
Duval County (N. Sweden)—
Hiawatha, Vaello 1, east outpost • 5950
Duval County (Piedre Lumbre)—
Magnolia, Duval Ranch 26 (203).. 100 2133
Jim Hogg County (Chaparosa)—
Adams et al, Gallagher 3..... • 2879
Jim Hogg (Colorado)—
Humble, King-Colorado 24-B..... 250 3041
Jim Hogg County (Manila)—
Magnolia, Merchants Bank 52..... 60 2546
Starr County (Rincon)—
Continental, Slick 59-A..... 500 4225
Slick 94-B 550 4138
Slick 3-E 550 4115
Starr County (Boyle)—
Fidelity O&R Co., Carruth 2-D.... 150 3516
Starr County (Samfordyce)—
Phillips, Saenz 5..... 350 4194
Starr County (Wildcats)—
R. C. Hillman, Gonzales 1..... • 3937
Sun, Hall 2..... • 4742
Webb County (Killam)—
O. W. Killam, Garcia 16..... 75 2065
Webb County (Wildcat)—
W. C. McBride, Dobie 1..... • 1384

SAN ANTONIO DISTRICT
Bexar County (Gas Ridge)—
Southwest Dr. Co., Covell 4-A.... 2 463
Bexar County (LaCoste)—
Peacock & Summar, Fee 2..... 25 1154
Wilson County (Wildcat)—
Texmin Oil Co., McDaniel 1..... • 3138

CORPUS CHRISTI DISTRICT
Jackson County (LaWard)—
Humble, Mauritz 5-B..... 400 5231
Jackson County (Lolita)—
Magnolia, Four-Way Ranch 3..... 250 5953
Mitchell 17 ..... 650 5297
Jackson County (West Ranch)—
Forest Dev. Corp., Dixon 1..... 250 6330
Jim Wells County (E Premont)—
Magnolia, Seeligson 17, new sand 450 6856
Jim Wells County (Orange Grove)—
Atlantic, Schunnemann 2..... 350 5090
Nueces County (East Flour Bluff)—
Humble, Haas 1..... 500 6804
Nueces County (Luby)—
Stanolind, Spessard 37..... 400 5189
Nueces County (S. Clara Driscoll)—
Texas, Flinn 5..... 400 5505
Hattie Flinn 3..... • 5632
Texas Conservative Oil Co., Huie 5 250 5450
Refugio County (Woodsboro)—
Sinclair Prairie, Boenig et al 1.. 500 6826
San Patricio County (Plymouth)—
Plymouth, Welder 118-C..... 600 6147

West Texas

Andrews County (Emma)—
Harry Adams & Bradley, University-Skelly 1 .....1408 4275
Andrews County (Means)—
Humble, Means 30..... 65 4544
Cochran County (Slaughter) —
Atlantic Ref., Boyd-Humble 15... 583 4990
Cascade Pet. Co., Igoe-Smith 3....1266 5023
Crane County (Gulf-McElroy)—
Gulf, McElroy 249..... 127 3175
Crane County (Jordan)—
Texas Co., University 7-D.....1618 3574
Ector County (Foster)—
M. J. Delaney-K. Murchison, Johnson 1-B 442 4145
Forest Dev. Corp., Moss 11-H..... 331 4363
I. T. I. O. Co., Johnson 4-E..... 495 4152
Ector County (North Goldsmith)—
J. C. Hunter-N. L. Graham, Cowden 1 ..... 72 4472
Ector County (North Cowden)—
Broderick & Calvert, Holt 18-A.... 763 4520
Stanolind - M. J. Delaney, Smith 12-A 776 4400
Texas Co., Holt 8..... 356 4520
Gaines County (Seminole)—
Amerada, Austin 4..... 690 5245
Turlin 10 ..... 918 5330
Magnolia-Atlantic, H. & J. 2-189. 72 5285
Gaines County (Wasson)—
Amon G. Carter, Sharp 4..... 270 4975
Hockley County (Slaughter)—
S. E. Cone et al, Hensley 2..... 574 4978
Honolulu Oil Corp., Slaughter 16-B-52 .....1294 4990
Slaughter 17-B-22 .....1537 5000
Magnolia, Mallet 9-G.....1269 5003
Sid W. Richardson, Slaughter 8... 591 4965
Slaughter 18 ..... 640 4983
J. H. Sharp et al, Stallings 1.... 441 4975
Stallings 3 ..... 364 4945
Stallings 4 ..... 464 4958
Stanolind, Slaughter 17-A.....1374 5011
Slaughter 28-B 1412 5026
Texas Co., Mallet 6-E.....1330 5050
Slaughter 21 .....1344 4990
Western States Gaso. Corp., Frazier 10 .....2012 5004
Howard County—
Ennisbrook Oil Corp., Texas Ld. & Mtg. Co. 22..... 878 2800
Mitchell County (Northwest)—
F. W. Merrick, Inc., Crawford 1-B 208 1755
Staley Oil Co. et al, Crawford 1.... 254 1741
Pecos County (Abell)—
Magnolia, Crockett 3 (pb to 4750 ft) 196 5991
Silverman-State 1 .....1536 5402
Pecos County (Apco)—
A. W. Thompson, Inc., Gregg-Texaco 1 .....1469 4625
Pecos County (Tobarg)—
Corvette Oil Corp., Tippett-Humble 12 ..... 9 503
Pecos County (Walker)—
Childress Roy. Co., White-Baker 4-A 40 2004
Shasta Oil Co., White-Baker 9.... 63 1950
Pecos County (Wildcat)—
R. H. Kean & Beasley, Slaughter 1 • 1683
Terry County (Slaughter)—
Geo. P. Livermore, Inc., Jacobson 3 .....1648 5056
Terry County (Wildcat)—
Osage Dr. Co.-Anderson-Prichard, Christman 1 ..... • 5520
Upton County (Wildcat)—
Mesquite Oil Corp., Neal 1..... • 4046
Ward County—
Gulf, Hutchings 159..... 210 3075
Winkler County (Hendrick)—
Texas Co., Cowden 1-B..... 238 2980
Winkler County (Keystone)—
Gulf, Keystone 42..... 163 3489
Standard of Texas, Baird 25, sec 19 ..... 483 3370
Texas Co., Campbell 237 3290
Yoakum County (Wasson)—
Aloco Oil Co., Knight-Texaco 4.... 474 5286
J. L. Crump & Black Bros., Bennett 2-A 325 5280
Don Danvers et al, Willard 8-B.... 304 5280
Denver P. & R. Co., Whittenburg 17 .....1080 5176
Dr. & Explo. Co., Stanford-Humble 1-A 265 5110
Humble, Armstrong 7..... 441 5098
North Shore Corp., Bennett-Humble 7 ..... 502 5270

OLD WELL DEEPENED
Crane County (Gulf-McElroy)—
Gulf, McElroy 62 (otd 2892)..... 203 2973

Texas Panhandle

Carson County—
Texas Co., Moore 12..... 87 3145
Noel 6 ..... 64 3230
Gray County—
Magnolia, Fee (Tr. 227) 46..... 118 2990
Moran Bros. et al, Davidson 1... 303 3085
Sinclair Prairie, Pope 6..... 172 3312
Stanolind, Sullivan 7..... 44 3325
Texas Co., Davidson 3..... 83 3120
Davis 20 ..... 319 2830
Harrah 12 ..... 258 3250
Short 9 ..... 70 2936
Saunders 14 ..... 173 2880
Hutchinson County—
Cree & Hoover, Haile 9..... 196 3055
Holmes et al, Moore 6..... 321 3125
Midstates Oil Corp., Whittenburg 36-A 361 2939
Parton & Holt, Whittenburg 7... 105 3025
Phillips Pet., Kay 6..... 112 3254
Perkins 32 ..... 111 2983
Perkins 33 ..... 106 2958
Supreme 4 ..... 100 3263
Shell, Harvey Sisters 24-B..... 285 3077
Texas Co., Lewis 35..... 141 2980

WILDCAT REPORT
New Starts and Completions

ARKANSAS
FIRST REPORT

Union County—Stacy-Erwin & Delta Dr Co.'s Pickering 1, se nw 32-18-16, elev. 166.04 ft, rig for 8000-ft test to Smackover lime.

CALIFORNIA
FIRST REPORTS

Fresno County—Amerada Pet. Corp.'s Glover 31-34, sec 34-16-17, lcn, Raisin City area.
Kern County—Shell's Smith 56-X-11, sec 11-26-27, lcn, Richgrove area. Bolsa Chica Oil Co.'s Howell 2, sec 32-28-29, lcn, Round Mountain area.
Los Angeles County—Western Gulf Oil Co.'s Wickham 1, sec 31-5-17, gr lcn, Castaic area.
Ventura County—Richfield's Bard 44, sec 13-4-22, lcn, Ojai area.

COMPLETIONS

Los Angeles County—Robert S. Lytle's Anderson 1, nw Normandie and Imperial blvds, td 8087 ft, lost circulation 900 ft, shallow zone blowout, abnd, Athens area. Barnsdall's Honor Ranch A-19-1, sec 7-4-16, td 7768 ft in fractured Miocene shale, vertical dips below 7500 ft, abnd, Castaic area. LeBow-McNee Oil Co.'s Bouska 1; sw Walnut and Main, td 7308 ft in barren Seventh Callender, abnd, Dominguez area.

ILLINOIS
FIRST REPORTS

Clay County—Jim Burham's Bryan 1, e½ se nw 36-5n-7e, lcn.
Fayette County—Penn.-Ill. O. & G. Corp.'s Sloan 1, se se ne 4-8n-3e, dr.
Gallatin County—Angle & Angle's Daley 1, se nw sw 25-8s-9e, lcn. R. B. Martin's Agnew 1, sw sw sw 26-8s-10e, lcn.
Jackson County—Glenwood Oil Co.'s Treux-Traer Coal Co. 1, se ne sw 36-7s-2w, dr.
Jefferson County—M. N. Rogan's Kenetski 1, nw nw sw 3-3s-1e, lcn. M. N. Rogan's Mydler 1, se se sw 3-3s-1e, lcn.
La Salle County—A. Hanna's Bain 1, ne se nw 8-32n-2e, lcn. A. Hanna's Bottomley 1, nw sw ne nw 8-32n-2e, dr.
Marion County—Max Conrey's Rogier 1, c nw se se 4-3n-1e, dr.
Massac County—C. C. Marshall's Harper 1, ne c ne 19-14s-4e, dr.
Montgomery County—Benedum & Trees' Hansen Hrs 1, sw sw se 3-10n-2w, lcn.
Pope County—Anthony Claro et al's Mayer 1, ne sw nw 29-11s-5e, lcn.
Richland County—Ohio's Koertge 1, ne sw se nw 29-2n-14w, lcn. Delta Prod. Co.'s Shan 1, w½ sw nw 27-3n-9e, dr.
Shelby County—R. J. McFarland's Christian 1, se se se 6-12n-2e, dr.
Wabash County—S. W. Petrie's Schaffer 1, se sw sw 14-1n-14w, dr.
Washington County—Bill Lee's Liebrach 1, sw sw nw 21-2n-3w, lcn.
Wayne County—Robinson & Continental's Puckett 1, e½ se se 17-2s-8e, lcn.

COMPLETIONS

Bond County—Texas Co.'s Mull 1, nw sw nw 15-6n-2w, abnd 2476 ft.
Fayette County—Sunray Oil Co.'s Boye 1, sw sw nw 23-5n-2e, abnd 2200 ft.
Gallatin County—Vandenburg's Browning 1, ne nw se 10-8s-10e, abnd 2841 ft.
Hamilton County—Ohio Oil First Nat'l Bank 1, nw se se nw 3-5s-7e, abnd 3587 ft.
Macoupin County—Adams-Laegers' Bristow 1 sw sw sw nw 8-11n-7w, abnd 1435 ft.
Madison County—A. F. Alspach's Smith 1, sw sw sw se 31-3s-6w, otd 1415 ft, abnd 1715 ft.
Marion County—T. R. Kerwin et al's Glaser 1, s ½ se sw 2-1n-3w, abnd 1340 ft. Texas Co.'s McClelland 1, c s½ sw ne 18-2n-2e, abnd 3600 ft.
Perry County—Ruwaldt et al's Fulk 1, ne ne sw 15-4s-4w, abnd 1450 ft. Kingwood Oil's Marlow 1, sw nw sw 15-5s-2w, abnd 1607 ft.
Shelby County—National Pet. Co.'s Montooth 1, se se se 2-9n-2e, abnd 2043 ft.
Wayne County—Wiser Oil Co.'s Hilliard 1, s½ se sw 27-1n-6e, Round Prairie pool disc 2406 bbls oil, McClosky 2994-96 & 3021-24 ft. td 3985 ft. Pure's Liston "A" 1, w½ ne ne 22-1s-8e, abnd 3200 ft. C. Crosby's Murphy 1, e½ sw ne 15-3s-5e, abnd 3432 ft.
White County—Skelly et al's Reinwald et al 1, nw nw nw 25-4s-9e, abnd 3360 ft Millison Bros.' Chamber 1, nw nw sw 30-5s-14w, abnd 3111 ft. Pure & Carter's Kesner 1, se se se 7-6s-9e, new pool disc, Pt. Crk. 2800-32 ft, td 3193 ft, 12 bbls water, 134 bbls oil.
Williamson County—Arrow Dr Co.'s Fuller 1, nw sw se 31-8s-4e, abnd 2944 ft.

INDIANA
FIRST REPORTS

Elkhart County—John H. McLeon's Brandt 1, nw c sw 30-37n-7e, lcn.
Gibson County—Ed Holman's Mumford Realty Co. 5, se se sw 29-3s-13w, lcn.
Greene County—Ohio Oil's Wells 1, c n½ nw es 2-7n-4w, dr.
La Porte County—W. A. Anderson's Rodman 1, c ne sw 3-36n-1w, lcn.
Madison County—Modert's Hughes 1, nw ne nw sw 10-21n-8e, lcn.
Spencer County—E. J. Goldschmidt's Yoeger 1, nw se se 6-7s-7w, lcn.

KANSAS
FIRST REPORTS

Barton County—Bartlett et al's Wondra 1, se ne ne 5-17-13w, dr.
Cowley County—Deep Rock Oil Corp.'s Daniels 1, swc ne 10-30-3e, dr.
Greenwood County—C. T. Welch et al's Crawford 1, ne se se 17-28-12e, dr.
Norton County—Helmerich & Payne and Phillips Pet. Co.'s Wyatt 1, c e½ ne ne 20-1-23w, dr.
Rice County—Ingling-Parker's Markle 1, c ne sw 1-20-9w, dr.
Sedgwick County—W. S. Fees et al's Bartholomew 1, c n½ ne sw 30-27-4w, dr.

COMPLETIONS

Barton County—L. Isern & Pem Dr. Co.'s Laudick 1, c s½ ne nw 28-16-12w, 3 mi e Ainsworth pool, Lansing 3116 ft, Arbuckle 3368, abnd 3386 ft. Shell's Kinzell 1, sec sw 2-18-12w, 6 mi w Bloomer pool, Ft. Riley 1665 ft, Florence 1765 ft, Neva 2045 ft, Topeka 2709 ft, Lansing 3076 ft, Conglomerate 3329 ft, Arbuckle 3346 ft, abnd 3364 ft.
Dickinson County—A. R. Jones et al's Kuhn 1, c e½ ne se 6-16-4e, 6 mi n Lost Springs pool, Mississippi 2328 ft, hfw 2540 ft, Dolomite 2579 ft, Arbuckle 2610 ft, hfw, abnd 2620 ft.
Reno County—Central Pet. Co. et al's Dyck 1, c w½ nw sw 4-22-4w, 5 mi w Hollow-Nikkel pool, Lansing 2640 ft, Mississippi 3340-3625 ft, Hunton 3741 ft, Viola 3877 ft, Simpson 3899 ft, Arbuckle 3974 ft, abnd 4004 ft.
Rice County—Bronson et al's Brown 1, c w½ nw sw 2-19-9w, 2 mi n Chase pool, Anhydrite 353 ft, Topeka 2590 ft, hfw 3010-15 ft, Lansing 2920 ft, Conglomerate 3245 ft, Viola 3288 ft, Simpson 3338 ft, Arbuckle 3378 ft, hfw, abnd 3381 ft.

NORTH LOUISIANA
FIRST REPORTS

Claiborne Parish—Hunt Oil Co.'s Mitchiner 1, c sw se 15-23n-7w, rig for 8500-ft test Mitchiner 2, sw sw 15-23n-7w, lcn.
Natchitoches Parish—W. A. Jacobson et al's Leopold Plant 1, sw c se se 33-11n-9w, rig.

KENTUCKY
FIRST REPORT

Ohio County—Revlis Oil Co.'s Davidson 1, 10-m-35, dr.

SOUTH LOUISIANA
FIRST REPORTS

St. Landry Parish—Brewster & Bartle's C. Richard 1, Cankton area, sec. 25-8s-3e, spudding.

COMPLETIONS

La Fourche Parish—Gulf Refg. Co. State 1, Bay Marchand, in Gulf of Mex., twp 23s, rge 23e, TD 3004 ft salt, top salt 2969 ft, tested sands from 1440-2905 ft, all showed gas and sw, abnd.

MICHIGAN
FIRST REPORTS

Arenac County—Basin & Rayburn's Mutch 1, nw nw se 17-19n-4e, dr.
Bay County—Century & Major's McDonald 1, sw se sw 2-18n-3e, dr.
Livingston County—Voorhees Dr. Co.'s Bird Preserve 1, nw ne se 24-3n-6e, dr.

COMPLETION

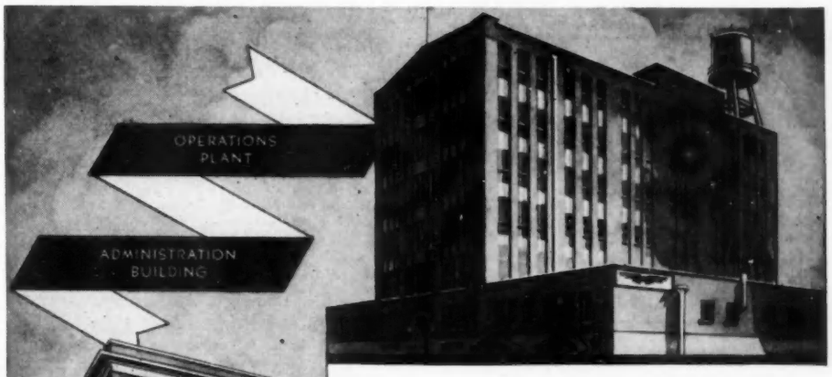
Van Buren County—Lang & Lewis' Peterson 1, ne sw se 26-1s-17w, Traverse 1062 ft, abnd 1110 ft.

MISSISSIPPI
FIRST REPORTS

Yazoo County—E. C. Johnston's Gaddis 1, 26-10n-1w (not checked), lcn.
Lawrence County—Tide Water's Denkman Lbr. Co. 1, c n½ sw 5-5n-11e, rig.
Stone County—Harry I. Morgan et al's Mississippi 1, c se 35-3s-10w, mat.
Wilkinson County—Bering Oil Co.'s Unknown 1, 14-4n-2w, lcn.

NEBRASKA
FIRST REPORTS

Redwillow County—Smitson & Son's Lofton 1, c nw sw 34-1n-29w, lcn.



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THE MAPPING AGENCY FOR THE OIL INDUSTRY

Richardson County—Harry Harper et al's Horn 1, c s½ ne se 35-3n-16e, dr.

COMPLETION

Richardson County—Eckert-Powers et al's Albin Estate 1, sw nw sw 10-1n-14e, Dawson area, Lansing 840 ft, base Kansas City 1130 ft, Mississippi 2010 ft, lost hole, abnd 2089 ft.

NEW MEXICO

FIRST REPORT

Torrance County—Morrow Bros. et al's Fee 1, se nw 18-3n-13e, cas 240 ft.

COMPLETION

Eddy County—Wm. D. Flynn et al's Evans 1, swc se 18-17s-25e, elev 3650 ft, abnd hfw 954-58 ft.

OKLAHOMA

FIRST REPORTS

Caddo County—Amerada Pet. Corp.'s Sprages 1, c se nw 11-8n-12w, lcn.

Lincoln County—R. L. Kemp et al's McLowry 1, sec sw 28-17n-5e, otd 4002 ft in Second Wilcox, 5½-in csg 3996 ft, gas broke in between 5-in and surface pipe, to shut off gas.

Seminole County—Harvey & Henry et al's Work 1, nec 20-8n-8e, dr.

Wagoner County—Dr. V. V. Grant et al's Carter 1, nwc 31-16n-19e, dr.

COMPLETIONS

Comanche County—Hamblen-Good et al's Phillips 1, nec nw 34-1n-13w, 2 mi n Holliday, Red Bed 410-25 ft, water, abnd 445 ft.

Caddo County—Olson Dr. Co. & Phillips Pet. Co.'s Ka-Way-Kla 1, c se se nw 28-6n-11w, 3 mi ne Apache pool, Pontotoc absent, abnd 5205 ft in Permian.

Creek County—Zephyr Dr. Co.'s Sinclair 1, sec nw 34-17n-8e, new pool, Prue 2325-90 ft, Redfork 2693-2732 ft, Bartlesville 2843 ft, Mississippi 3310 ft, Woodford 3562 ft, Misener 3593 ft, Viola 3598 ft, Wilcox 3658 ft, td 3692 ft, ripped casing Prue, shot 80 qts 2330-87 ft, 245 bbls, 40.5-gr.

Lincoln County—Logan & Cooper et al's Oestamann 1, se ne se 11-16n-5e, Avery townsite, Checkerboard 2510-35 ft, Cleveland 2535 ft, lm 3135-45 ft, sh 3145-50 ft, Oswego 3150-3220 ft, Pure 3235-50 ft, Verdigris 3290-95 ft, sd 3305 ft, purple li 3458-65 ft, bkn sd 3305-15 ft, Red Fork 3395-3630 ft, abnd 3635 ft.

Jackson County—Kerbow & Britton's Moon 1, se sw ne 31-1n-19w, 1 mi w Tipton pool, sh & Wash 1810-26 ft, li 2195 ft, Wash li 2352-64 ft, bkn Wash 2635-44 ft, bkn li & Wash 2644 ft, abnd 2696 ft.

Okfuskee County—W. T. Shelton Dr. Co.'s Armstrong 1, sec nw 3-11n-10e, 3½ mi ne Okemah, Booch 2728 ft, Gilcrease 2970 ft, Dutcher 3122 ft, Wapanucka 3162 ft, Cromwell 3260 ft, sd 3345-55 ft, td 3394 ft, 7-in 3308 ft, perf Gilcrease 2970-3122 ft, 84 bbls.

Pawnee County—Sand Springs Home et al's Launer 1, swc 25-20n-6e, 2 mi e Marmec dist, Red Fork 2892-2908 ft, Inola 2960-64 ft, Bartlesville 3000-10 ft, Mississippi Chat 3102-05 ft, true Mississippi 3105 ft, td 3144 ft, 2000 gals acid, 6 bbls.

Pottawatomie County—Manahan Oil Co. et al's Brown 1, sec 21-10n-3e, 3 mi nw Tecumseh-Lake pool, Belle City 2915 ft, Hogshooter 3335 ft, Checkerboard 3667 ft, Oswego 4410 ft, Pure 4460 ft, Verdigris 4700 ft, Skinner 4725 ft, Mayes 4995 ft, Woodford 5120 ft, Hunton 5245 ft, Sylvan 5282 ft, Viola 5375 ft, Dense 5420 ft, Dolomite 5446 ft, First Wilcox 5483 ft, Second Wilcox 5580 ft, abnd 5597 ft.

Stephens County—Helmerich & Payne et al's Cryer 1, se ne sw 33-2n-5w, 1 mi n West Doyle pool, white sd 5664-73 ft, stuck drill pipe, top fish 2731 ft, abnd 6795 ft.

Tillman County—C. L. Price et al's Crowe 1, nwc ne 24-2s-15w, 16 mi e Frederick pool, abnd 1941 ft.

EAST TEXAS

COMPLETIONS

Harrison County—Bay Oil Corp.'s Brown 1, W. O. Stanfield sur, abnd 3000 ft.

Anderson County—R. H. & W. Oil Co.'s Sanders 1, nwc 17-ac lse, Joe Ferguson sur, east edge Frankston, elev 431 ft, Pecan chalk 3450-3780 ft, Austin chalk 4605-4835 ft, Sub-Clarksville 4878-4910 ft, Woodbine series 5060 ft, jkd and abnd 5229 ft.

SOUTHWEST TEXAS

FIRST REPORTS

Bastrop County—Wiegand Bros.' Lentz 1, J. G. Lentz sur, 1/3 mi sw Lentz disc, fsg 1800 ft.

Calhoun County—Coronado Corp.'s Welder 28-A, tr 154, 1 mi sw Duck Bay field, dr 1775 ft.

Duval County—J. B. Blanchard's Carrillo 1, sec 310, 9½ mi w San Diego, lcn 4700-ft test, Frank Gravis' Loving 1, sec 251, 7 mi sw San Diego, mi 5700-ft test, Magnolia's Duval-State 5, sec 88, 3850 ft sw W Casa Blanca, lcn 2350-ft test, Manley & Campbell's Neely 1, sec 284, Charamousca area, lcn for 2000-ft test.

Jackson County—Sinclair Prairie's Volkmer 1, F. F. Welles League, 3120 ft w Texana disc, ru 6000-ft test, Texas Co.'s Kolle 1, J. McCrabb sur, 9 mi nw Edna, lcn 6000-ft test.

Jim Hogg County—Navarro Oil Co.'s Trevino 2, Santa Teresa gr, between main Kelsey and extension area, lcn 4850-ft test, Plymouth Oil Co.'s Sweeney 2, 30 mi se Hebbronville, lcn 7000-ft test.

Starr County—F. A. Gillespie & Sons' Guerra 1, sec 23, 40 mi nw Rio Grande City, lcn 2500-ft test.

Wilson County—G. C. Newton's Hasse 1, Salinas sur, 15 mi sw Floresville, lcn 1500-ft test.

COMPLETIONS

Duval County—Argo Oil Corp.'s Gonzales 1, Carrera gr, 10 mi nw Premont, blew out 6308 ft, stuck drill pipe 6296 ft, cemented, perf 6270-84 ft, flowed est 7,000,000 ft gas, distillate odor, 2700 lbs cp, Hockley 6146 ft, new field. Hiawatha's Vaello 1, San Andres gr, 1 mi ne North Sweden field outpost, temp abnd 5950 ft, may rework later.

Jim Wells County—Magnolia's Seeligson 17, at E. Premont, 125 bbls 40-gr oil, ½-in ch, tp 570 lbs, cp 1000 lbs, perf 5555-57 ft with 12 shots, gor 6751, pb fr 6856 ft, new sand.

Starr County—R. C. Hillman's Gonzales 1, por 69, abnd 3937 ft. Sun's Hall 2, sec 89, 1867 ft e disc gasser, disc gas sand 4677-4701 ft, abnd 4742 ft.

Webb County—W. C. McBride, Inc.'s Dobie 1, sur 8, 5 mi s Adami fld, abnd 1384 ft, Mirando 1370 ft.

Wilson County—Texminn Oil Co.'s McDaniel 1, sur 46, 3 mi e Poth, temp abnd 3138 ft.

WEST TEXAS

FIRST REPORTS

Crockett County—E. S. Hitchcock et al's Noelke-Humble 1-A, w cor ne½ sec 1949, blk 31, Steisser sur, sp & sd; E. F. Noelke 1-B, n cor sw½ sec 1950, blk 31, Steisser sur, lcn.

Ector County—Sinclair Prairie's Johnson Est. 1, nec ne se T&P sec 31, blk 42, T-1-S, dr 3880 ft.

Reeves County—John Wolfe et al's Wilson-Biggs-Hubbard 1, se sw ne PSL sec 1, blk 112, lcn Delaware test.

COMPLETIONS

Pecos County—R. H. Kean & Beasley's Slaughter 1, sec ne T&ST.L. Ry. sec 30, blk 129, elev 3314 ft, abnd 1683 ft.

Terry County—Osage Dr. Co.-Anderson & Prichard's Christman 1, c sw sw D&W sec 49, blk T, elev 3247 ft, anhydrite 2310 ft, Yates grains 3170 ft, brown lime 4210 ft, solid lime 4510 ft, abnd 5520 ft.

Upton County—Mesquite Oil Corp.'s Neal 1, swc C&M sec 34, anhydrite 1280 ft, salt 1330 ft, abnd 4046 ft.

WEST CENTRAL TEXAS

FIRST REPORTS

Callahan County—W. B. Schooler et al's Betcher 1, nwc S.P. Ry. sec 7, blk 6, lcn 2500-ft test.

McCulloch County—D. H. Brock et al's Cox 1, center Ludwig Javer sur 944, dr 95 ft.

Palo Pinto County—Hickok P&D Co.-Harry Reynolds' Gauldin 3, sec TE&L sec 1756, lcn 4500-ft test.

Shackelford County—F. O. Aikin et al's Shotwell 1, ne sw se T&P sec 55, blk 14, sp.

COMPLETIONS

Callahan County—L. A. Warren et al's Clinton 1-B, sw se Bayland Orphan Asylum Lands sec 15, abnd 537 ft.

Shackelford County—R. H. Roark et al's Diller 1, near c s½ TE&L sec 564, abnd 1077 ft; Elliott 1-A, c sw se Lunatic Asylum Lands sec 9, new pool, elev 1446 ft, lime 2433 ft, Strawn sand 2874-2889 ft, 2,500,000 ft gas 1-in choke, cp 900 lbs.

TEXAS GULF COAST

COMPLETIONS

Fort Bend County—Providence Oil Co.'s Settegast 1, 3 mi W Clodine field, Joel McCrary Survey, abnd Cook Mountain, 7970 ft, ran higher than Clodine discovery but all sands carried water.

NORTH TEXAS

FIRST REPORTS

Archer County—W. T. Hutchinson, Jr. et al's Wilson 1-F, ne nw ATNCL sec 101, lcn, W. F. Palmer et al's Koester 1, c nw TE&L sec 1810, lcn, C. L. Shive et al's Seay 1, nwc sw sec 108, Harris subd, sp.

Clay County—L. T. Burns et al's Wynn 2, nec se lot 34, H. Williams sur A-704, dr 1890 ft.

Collin County—J. C. Stevenson et al's St. Clair 1, ne 192-ac tr, Ben Clark sur, lcn.

Montague County—Continental Oil Co.'s Winder 1, nec S-40 of N-80 of W-160-ac tr, Limestone CSL sec 4, lcn 7200-ft test, Bridwell, Deep Oil Dev. Co.-Chapman & McFarlin's Fowler 1, most northerly sec John W. Massie sur A-463, lcn.

Young County—Kerlyn Oil Co.-Phillips Pet. Co.'s McClure 1, nw nw TE&L sec 1947, lcn.

COMPLETIONS

Archer County—C. W. Snoddy et al's Carter 1, ne se lot 38, blk 5, Clark-Plumb sur, new pool, td 1125 ft, perf 815-21 ft, pumped 3 bbls nat Young & Woody Dr. Co.'s Abercrombie 1, nw ne blk 57, Harris subd, abnd 1420 ft.

Clay County—J. C. Murphree et al's Byers 1, blk 5, Byers subd, abnd 1220 ft, Seitz-Comegys & Seitz, Inc.'s Dunn 1, 568-ac tr, R. R. Brown sur A-14, abnd chert 2389-91 ft, Shell's Scaling 1, near c blk 87, J. H. Belcher sur, otd 5436 ft, Bend 5391 ft, Barnett shale 5920 ft, Ellenberger 6172 ft, abnd 6268 ft.

Cooke County—Kingery Bros. Dr. Co.'s Wimmer 1, nec lse, BBB&C sur, A-163, abnd 1602 ft. E. L. Wilson et al's Gwynn 1, nwc H. Jennings sur, A-531, Ellenberger 1482 ft, abnd 1505 ft. C. J. Bohner et al's Wickliffe 1, nec s½ W-80 ac of E-182.69-ac tr, I. Gable sur A-420, abnd 3350 ft.

Jack County—G. M. Gillespie-Steed Knappenberger's Loving 4, ne nw nw TE&L sec 3346, new deep Strawn pay, pumped 176 bbls init, td 3285 ft.

Young County—W. A. Buttram et al's Ferguson-Smith 1, ne part L. W. Smith sur A-1822, abnd 590 ft, W. R. Stafford et al's Wolverton 1, sw ne TE&L sec 225, abnd 981 ft.

Oil Exports Rise Sharply in May

Exports of crude petroleum in May reached 4,339,000 barrels valued at $6,130,000, compared with 2,503,000 barrels valued at $3,460,000 in April, but remains somewhat under the 4,784,000 barrels valued at $6,184,000 shipped abroad in May, 1940, it was reported July 17 by the Department of Commerce.

Exports of gas and fuel oil failed to maintain the April level, falling from 1,700,000 barrels valued at $1,748,000 in that month to 1,630,000 barrels valued at $1,825,000, where they were but little more than half the May, 1940, shipments of 3,148,000 barrels valued at $3,750,000, the department announced.

Shipments of motor fuel and gasoline also were at a low level, 1,105,000 barrels valued at $3,297,000 against 1,149,000 barrels valued at $2,640,000 in April, and 1,618,000 barrels valued at $6,722,000 in May of last year, but lubricating oil shipments showed improvement over the preceding month, reaching 1,077,000 barrels valued at $7,657,000 against 737,000 barrels valued at $7,056,000, although 74,000 barrels under the May, 1940, total of 1,151,000 barrels valued at $9,287,000.

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MEN IN THE INDUSTRY'S NEWS

C. C. CLIFTON has been appointed division superintendent in charge of the recently created Louisiana division of Humble Oil & Refining Company, at New Orleans, in an extensive readjustment of the supervisory forces of the company's production department, following conversion of the New Orleans organization from a district into a division. Clifton formerly served as district superintendent. The new district includes Mississippi and Alabama operations.

C. H. Keen has been appointed assistant division superintendent in the Louisiana division. He formerly was district superintendent at Lovell Lake, Coastal Texas. C. E. Capers, formerly assistant division chief clerk in the Gulf Coast division, has been made division chief clerk in the Louisiana division. J. B. Stamey, assistant division chief clerk, was transferred from the North Texas division, Wichita Falls, to the Louisiana division.

Other employes placed in the Louisiana division include J. A. Sizer, division material pusher, formerly division clerk in the Gulf Coast division; H. E. Potter, division petroleum engineer, formerly division petroleum engineer in the East Texas division at Tyler; J. S. Boldrick, assistant division petroleum engineer, formerly district petroleum engineer at Tomball, Texas Gulf Coast; H. A. Ratchford, division civil engineer, formerly assistant division civil engineer in the Gulf Coast division; P. E. Barber, assistant division civil engineer, formerly office civil engineer in the Gulf Coast division; and G. E. Carpenter, regional industrial relations manager and division safety engineer, formerly division safety engineer in the Gulf Coast division.

The company also has made various other changes in the supervisory personnel of the production department in Texas and Louisiana. K. B. Davidson, formerly assistant division petroleum engineer in the East Texas division, was appointed division petroleum engineer in the North Texas division; E. E. Williams, formerly tool pusher at Galveston Bay, appointed district superintendent in charge of the Potash district, South Louisiana; E. A. Greene, district superintendent, transferred from the Anahuac district to the Maurbro district, Coastal Texas; R. K. Tracy, district superintendent, transferred from the Maurbro district to the Lovell Lake district. B. D. Bell, district superintendent, transferred from the Dickinson to the Anahuac district, Texas Gulf Coast.

John S. Bell, petroleum engineer, was transferred from the North Texas division to the East Texas division; J. I. Cochran, former assistant district superintendent at Tomball, Texas Gulf Coast, appointed district superintendent in charge of the Chalkley district, Louisiana; B. W. Moller, district petroleum engineer, was transferred from the Dickinson to the Tomball district, Texas; H. J. McDonald, formerly assistant district chief clerk in the Kelsey district, appointed division material pusher in the Southwest Texas division at Corpus Christi.

W. S. Ham, district chief clerk, was transferred from the Magnet district to the Maurbro district, Texas Gulf Coast; E. W. Daniel, former assistant district chief clerk, appointed district chief clerk in the Magnet district; E. M. Jones, former assistant district chief clerk in the Sand Hills district, appointed district chief clerk in the Hurdle district, West Texas; A. L. Pate, assistant district chief clerk in the Anahuac district, appointed district chief clerk in the Livingston district, Coastal Texas; Joe Bishop, district gas superintendent, transferred from the Pledger natural gas system to the Tomball natural gas system; Jarrett S. Smith, district gas superintendent, transferred from the Tomball Natural Gas System to the Pledger natural gas system; A. L. Cantrell, former assistant district chief clerk, appointed district chief clerk in the Bayou Sale district, Coastal Louisiana; J. G. Sloan, district superintendent, transferred from the Chalkley district to the North Crowley district, South Louisiana, as superintendent in charge of operations.

RUSSELL C. STAMETS, 53, tubular department sales manager for Oil Well Supply Company, died in Tulsa July 24 following an appendectomy.

STEPHEN B. ANDREWS, comptroller for Goulds Pumps, Inc., Seneca Falls, New York, died July 19.

W. C. THOMAS has resigned as district superintendent for Magnolia Petroleum Company in the Lake Charles, Louisiana, district, and has been succeeded by Martin V. C. Bradley, transferred from Chase, Kansas. John F. Conley, superintendent at Eldorado, Kansas, has succeeded Bradley at Chase, and J. S. O'Brien has succeeded Conley as superintendent at Eldorado. Thomas has been with Magnolia or its associates for more than 20 years, eight of which he has spent at Lake Charles as superintendent for Magnolia. He has made no announcement of his plans for the future.

GROVER ELLIS, Jr., Stanolind Oil & Gas Company, has been elected interim president of the newly formed Derrick Club of Houston. Other officers who will serve for a two-month period, until selection of permanent officers, are Roddy MacDonald, vice president; George Blohm, secretary, and Ben Maxwell, treasurer. The Club plans an informal stag banquet for August 5.

ALBERT ROTHROCKE, superintendent of Colombian Petroleum Company at Barco, South America, and J. C. B. Van de Berg, Shell Oil Company, were guests of the Houston Chapter of Nomads at a luncheon at the Houston Club last week.

J. WALTER SNAVELY, Houston district manager for Chain Belt Company for seven years, has been transferred to the sales department of the company's conveying and engineering products division at Milwaukee. A graduate of the University of Wisconsin, he joined the company in 1927 as a student apprentice, and during the following three years received factory training in various departments.

W. A. Pitts, Oklahoma City representative since 1936, has been named district manager of oil well sales at Houston, succeeding Snavely. George Hunt, formerly with a southern paper mill, has been named district manager of industrial sales at Dallas.

F. E. RICHART, Wellsville, president of the New York State Oil Producers Association, was among directors of the group named at a recent association dinner meeting held in Bolivar. Other directors named were O. W. Walchli, James Randall, J. Cochran, G. W. Holbrook, A. W. Schaller, L. H. Thornton, B. T. Haskins, M. E. Mitchell, Matt McEnroe, E. C. Harder, all of Wellsville; J. C. Bradley, Winston Davis, A. L. Shaner, Leon MacDonnell, Charles Chipman, all of Bolivar; Van Munson, Joseph Karl and Leonard Eberl, of Olean; Henry Funk, Richburg; J. P. Herrick, Los Angeles; William Mackenzie, Belmont; Harry Patterson, Buffalo, and W. M. Shoemaker, Bradford, Pennsylvania.

HARRY HINES, former Highway Commissioner of Texas, who has for twenty-five years been familiarly seen going about in oil circles, but who has for the past six years been serving Texas as a member of the State Highway Commission, is again back in oil circulation. Hines is one of the outstanding wildcatters and producers of the state. He resigned the vice presidency of Deep Oil Development Company to become chairman of the Highway Commission, to which he was appointed by Judge James V. Allred, then governor. In recent weeks he has brought in a new wildcat which tested 216 barrels, known as the Wimberly No. 1, Jones County.

J. D. BAKER, invoice clerk for Stanolind Oil & Gas Company, has been named a buyer.

EDWIN S. SMITH, JR., 31, consulting geologist and operator, died July 28 at his home at Vernon, Texas. He was an authority on Wilbarger County geology, and several fields were found through his efforts.

MRS. HELEN CASACK MORAN, 76, widow of the late Martin Moran, president of the Texas Pipe Line Company, and mother of Dan Moran, president of Continental Oil Company, Houston, died July 28 in Tulsa. Mrs. Moran went to Tulsa from Lima, Ohio, in 1907, a

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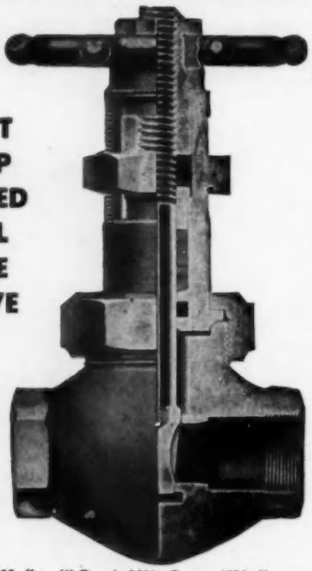
GATE
VALVE



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Marine Sediments

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31 AUTHORS

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Washington, D. C.

Prepared under the Direction of a Sub-Committee of the Committee of Sedimentation of the Division of Geology and Geography of the National Research Council, Washington, D. C.

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This book is on the topic of Sedimentation and Environment of Deposition recently voted No. 1 in geological research of most importance to the progress of petroleum geology—in a poll of the 3,000 A.A.P.G. members and associates, conducted by the Research Committee. Throughout the book, the basic data — observational facts — are emphasized rather than speculative inferences.

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Box 979, Tulsa, Okla., U. S. A.

MEN IN THE INDUSTRY'S NEWS

Sales representatives of Fred E. Cooper, Tulsa, held a three-day sales meeting and service school July 19-21, which was highlighted by a banquet. Principal speaker was Ernest Franks, manager of power unit sales, Allis-Chalmers Manufacturing Company, Milwaukee. Those attending included H. B. Bloxom, Harold Cooper, E. E. Everson, Louis Gasche, C. V. Small, C. O. Work, H. R. Kramp, Ralph Marshall, W. C. Simpson, W. F. Vorhies, C. F. Nelson, J. A. Cott, Harry Farmer, John Flanagan, E. H. Cochran, Ray Kaib, C. L. Elliott, R. R. Kirkpatrick, E. P. Lee, A. G. Bailey and G. E. Plank, salesmen; George McNinch, L. A. Wilsey and Earl Woolbert, engineering department; Kenneth Flett and Kenneth Tate, parts department; Spence Province, Guy Reed and C. D. Houser, service shop, and Howard Appleton, W. S. Ricketts, Bill Allen and Roy Stockton.

year after her husband joined the pipe line company. Besides Dan Moran, survivors include W. H. and Edgar, Tulsa drilling contractors; Joseph, Tulsa attorney; Walter, Tulsa operator; John R., Houston, and Margaret, Tulsa, and 12 grandchildren. Services were held July 30 from Holy Family Cathedral in Tulsa.

GUY WELLMAN, 65, who retired as general counsel for Standard Oil Company of New Jersey last February, died last week in New York. He went with Standard in 1915, and became general counsel in 1935. He handled negotiations leading to formation of Iraq Petroleum Company, and was a director of the Near East Development Company and of United Petroleum Securities Company.

DR. ROBERT THOMAS HILL, 82, geologist and scientist who authored numerous papers that were the basis for the application of geology by the oil industry in Texas, died July 28 at Dallas. He was a native of Nashville, Tennessee, and was orphaned by the Civil War. At 15, he joined his brother at Comanche, Texas, working part time as a printer's helper and cowpuncher. His unusual interest in rock formations preceded his entry in Cornell University as a working student. Upon graduation, he was employed by the United States Geological Survey, advancing to principal geologist before terminating 30 years of service to engage in consulting work. He was partial to field work, and such activities extended throughout the Southwest, Mexico, Central America and the West Indies. He conducted pioneer explorations into many sections of Texas, applying original names to geological formations and regions that later attained prominence as sources of oil and gas. In compliance with his request, the ashes of Dr. Hill will be scattered atop Round Mountain, Comanche County, Texas, where he began studying geology as a youth.

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THE ONE BOLT COUPLING

Squeaks from the Bull Wheel

Out in the Open

A woman wearing an off-the-face hat she had just bought asked her cook how she liked it.

"It's a right pretty hat," the cook gave judgment. "But it suah do make yo' face public."

A Mere Shadow

"What was the most you ever weighed?"

"One hundred and fifty-four pounds."

"And what was the least you ever weighed?"

"Eight and one-quarter pounds."

Too Late

It is said that people who stammer often sing well. A deckhand who suffered from an impediment in his speech ran to his Captain on the bridge during a storm, and started:

"P-Please, S-S-Sir—"

"For goodness sakes say it," demanded the captain. "If you can't say it, sing it."

The deckhand took a long breath and sang, "Should old acquaintance be forgot and never brought to mind; the first mate's fallen overboard; he's half a mile behind."

It Does Happen

The visitor paid his green fee, fixed up a match, and went out to the first tee. Taking his stance, he gave a wild swing and missed completely.

"By Jove!" he said to his opponent. "It's a good thing I found out early in the game this course is at least two inches lower than the one I usually play on."

She and the Lord

"Aunt Lucy, you don't mean to tell me you've gone and got married again?"

"Yes, I'm is, honey. De fo'th time, too. Looks lak jess as offen as de Lawd takes 'em—so does I."

Ugh, Paleface

"Fashions may come and go, but there's always a demand for cosmetics."

"Yes, women can't go wan forever."

Page Henderson

How much are these chickens?

They are $1.10 apiece.

Did you raise them yourself?

Yes, they were 85 cents last week. I had to raise them.

Another Profiteer

The scene was a small theatre in a provincial town. A melodrama was being played to an audience of factory workers enjoying a well-deserved respite.

The heroine, lured all unsuspecting to the villian's lair, had just realized with horror that his intentions were anything but honorable. Swiftly she snatched up a handy carving-knife.

"Stand back, you unspeakable cad, or you will rue this hour! she cried defiantly. "I may be only a poor, weak feminine creature—but, by Heaven, I will sell my honor dearly."

Came an accusing voice from the auditorium: "Profiteer!"

Pawnbrokers' Problems

It was midnight, and the pawnbroker was snoring in his room above his shop when suddenly he heard a terrific pounding on the door below. He put his head out of the window.

"Come down here."

"What, at this hour?"

"Come down, or I'll break your door in."

Grumbling, he stumbled downstairs. "Well, what is it?" he asked.

"What's the time?"

"What, you wake me up in the middle of the night and ask me the time!"

"Well, you've got my watch, haven't you?"

Placing the Blame

The celebrated artist was leaving a friend's house at a late hour, after having imbibed rather freely. At the top of a long flight of steps he stumbled and fell their entire length. Raising himself to a sitting posture, the artist balefully regarded his anxious host and demanded, "Who built this house?"

The host mentioned a well-known architect.

"Damned teetotaller!"

The Informer

"Did Brudder Avery gib de bride away?"

"No, sah; he gwine let de groom fin' her out for hisself."

Up-to-Date

"Well, Mary, now that we've struck oil, I want you to have some decent clothes."

"Bill Jones, I've worn decent clothes all my life. Now I'm going to dress like other women."

Or Rouge

See how the bride is blushing?

Go on, man. That's not a blush. That's the first flush of victory.

Duffer Shots

Earth flew in all directions as the crimson-faced,would-be golfer attempted to strike the ball.

"My word," he blurted to his caddie, "the worms will think there's an earthquake.

"I don't know," replied the caddie. "The worms around here are crafty. I'll bet most of them are hiding under the ball for safety."

Wrong Experience

The sergeant raged as his squad of recruits turned left when they should have turned right and vice versa. Private Higgins was the greatest offender, and the sergeant, going up to him, bawled in his ear:

"Haven't you ever drilled before in your life?"

"Yes, sergeant," replied Higgins. "I once drilled for three years."

"Oh, indeed . . . and where?" snapped the sergeant.

"In a quarry," grinned Higgins.

Too Expensive!

"A divorce would cost you about two hundred dollars."

"Don't be ridiculous!" she flared. "That's too much. Besides, I can have him shot for fifty."

One Is

Excited Young Father: "Quick! Tell me! Is it a boy?"

Nurse: "Well, the one in the middle is."

As Spoke

"Consomme, bouillon, hors d'oeuvres, fricasse, poulet pommes de terre au gratin, demi-tasse, des glaces, and tell that mug in the corner to keep his lamps offa me moll, see?"

Definition

Bustle: A deceitful seatful.

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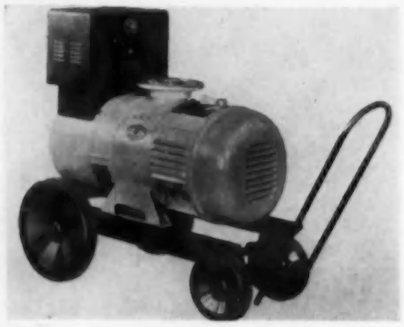
NOTES FOR THE Equipment Buyer and User

Crater Eliminator

WILSON WELDER & METALS COMPANY

A crater eliminator for use in arc welding where presence of a typical crater at the end of a weld deposit is objectionable, designated Stroco, has been announced by Wilson Welder & Metals Company, 60 East 42 Street, New York.



Stroco electric arc crater eliminator attached to Wilson Hornet generator.

The crater eliminator is an auxiliary device mounted on the body of the arc welding generator. It is connected in series with the excitation field of the generator and controlled by a switch which enables the operator to cut it in and out of the excitation field circuit at will. When introduced into the circuit, it functions as a variable resistance of large enough capacity to build up the resistance in the excitation field and thus lower the excitation field, thereby making it possible to reduce the current density gradually without disturbing the current setting of the welding generator. It is thus possible to accomplish a tapering off or a fading of the current instead of an abrupt change, and the weld deposit is free from porosity at the end, and has a smooth even contour instead of the typical depression.

Control of the crater eliminator is by means of a 3-position button switch on the electrode holder. During the usual progress of the weld, the switch is in neutral, and the device inoperative. When the operator is about to break his arc, either because he is approaching the end of one electrode or because he is approaching the end of a weld, he presses the button to the "on" position of the switch housing, bringing the crater eliminator into play and causing the arc to fade out gradually until the arc voltage becomes so low that it can no longer deposit any metal. In any case where the sections of the parts being joined become smaller so that it is desirable to reduce the current density for a limited period, the button can be retracted to make a slight reduction in the welding current and then advanced into the "off" position so that the remainder of the weld can be completed with reduced current. If the operator wants to return to the original current, a release of the pressure on the button will let it swing into the neutral position, which in turn will cause an increase of the welding current to its original value.

Socket Screws

The Bristol Company, Mill Supply Division, Waterbury, Connecticut, has issued Bulletin 846-A describing its line of socket screws. It shows set screws, cap screws with knurled and plain heads, several types of wrenches, and stipper bolts with multiple spline or hex socket.

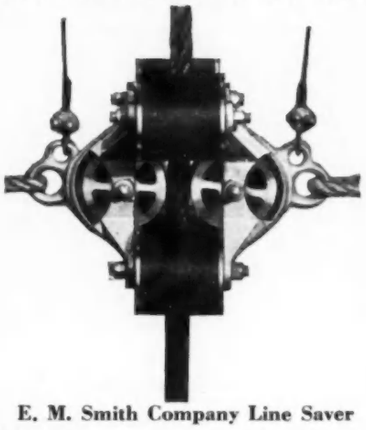
WEIGHT INDICATOR POINTS
Eliminate errors — and you eliminate a lot of expense. Errors in drilling often result in lost time, hard work, tremendous costs, and many expensive fishing jobs probably could have been averted if errors in drilling weight, torque, etc., had been eliminated.
To prevent these errors, use dependable instruments to accurately control every function on the rig . . . weight on bit . . . and mud pump pressure . . . rotary table speed . . . and torque in drill pipe. For this, you can't buy a finer instrument than the Martin-Decker "Sealtite." It's the master control instrument for any drilling job in the field.
MARTIN-DECKER CORP. LONG BEACH, CALIF.

Line Saver

E. M. SMITH COMPANY

Improvements in its line saver, designated Grizzly No-Wip, have been announced by E. M. Smith Company, 600 South Clarence Street, Los Angeles.

Rubber rollers are made larger to provide longer wear; cores of rollers are packed with grease, designed so lubrication is automatic to both shafts and bearings and to insure freedom of rollers and a free-spinning action. Frame has been provided with extended ears and protective plates to prevent rollers from coming in contact with other objects, and to prevent the device from rolling when lying around or being transported from one place to another. The frame has been made heavier.



E. M. Smith Company Line Saver

A new method of locking the rollers in position is provided by a cap that fits over a boss that is an integral part of the frame, to prevent the roller shaft from becoming disengaged even if the nut should become loose. The locking method is also designed to relieve the nut of strain in holding rollers in place.

Tachometer

WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY

An alternating-current tachometer for use in measuring revolutions-per-minute, feet-per-hour, or gallons-per-minute where rotating equipment is used, has been announced by Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania.

Designated Type A-80, it consists of an AC generator and a voltmeter of the rectifier type. No brushes or commutator are used in the generator, which is of the permanent magnet, AC inductor type. Magnets are made of high magnet steel, carefully aged to provide permanency of calibration.

Rotating element consists of laminated iron, keyed to a rust-resisting steel shaft. Laminations are slotted to permit variation of the air gap reluctance when the shaft is rotated, varying the flux linking the voltage coils and inducing an alternating voltage in the coils. Alternating voltage is rectified by a Rectox unit in the voltmeter calibrated in revolutions-per-

minute, feet-per-hour, or other units depending on the application.

The instrument is rated for operation over a range from 0 to 5000 revolutions-per-minute.

Establish Invention Development Laboratories at Houston

Invention Development Laboratories has been established with headquarters at 3112 Houston Avenue, Houston, for development and perfection of inventions and ideas on a fee basis or under royalty agreement. Principals of the firm are Ralph A. Warren and Lee Leissler.

The company is equipped to build scale working models for experimentation, and construction of final full-size working models for testing under actual working conditions. Engineering department is equipped with modern drafting and designing instruments; metal department has two lathes, milling machine, shaper, precision metal saw, drill presses and grinders, a blacksmith shop, and electric and acetylene welding equipment; fluid room is equipped with pumps for fluid tests and experiments, and wood working department has equipment necessary to develop an idea where wood is an adequate material.

Texas Petroleum Register Issued in Revised Edition

R. W. Byram & Company, Austin, has issued a revised edition of its Texas Petroleum Register, listing oil men and oil fields.

Section 1 contains a list of corporations, partnerships and individuals producing oil and gas in Texas. Corporate officials, home address, branch offices, capital stock, and officers of each company are shown, together with fields in which each firm produces. It covers approximately 4000 producers, and the list runs 122 pages.

Section 2 lists each field in the state, as designated by the Railroad Commission of Texas, together with names of operators, and number of leases and wells each has. Included in the list are addresses of district offices of companies owning the leases.

Section 3 lists gas operators, natural gasoline plants and refineries, with information on location and capacity, pipe-line companies, carbon-black manufacturers, dealers in oil and gas securities, registered engineers, and service and supply companies.

Cost of the book is $10 a copy.

Bearings

Keystone Carbon Company, 1935 State Street, St. Mary's, Pennsylvania, has issued a revised catalog listing additions to its line of Selflube porous bearings. It describes properties and uses of the bearings, and furnishes details on correct method of installations. Standard sizes for plain bearings, flanged bearings and thrust bearings are listed.

Waterproof Clothing

Goodall Rubber Company, 5 South 36 Street, Philadelphia, has issued Catalog 203, covering safety, sporting and regular boots; service coats and work suits; rubber and oiled clothing, aprons, hats; and rubber blankets and gloves. It describes 150 styles, illustrating 54 of them.

Record Crowd Attends Axelson Picnic

Nearly 3000 employes, their families and friends attended the Twelfth Annual Picnic of Axelson Manufacturing Company's Employes Welfare Association, held July 12 at the Barney Oldfield Picnic Ground near Van Nuys, California.

Under the direction of Alvin Zwerniman, general chairman, a program of games and entertainment for young and old got under way in the morning. After lunch, a baseball game between the shop and the office was held. Music of a dance orchestra held most of the guests until nearly midnight.

The committee reported this year's picnic to be the largest and best attended to date.

Welding Chart

General Electric Company, Schenectady, New York, has issued a Welderule, operating in a manner similar to a slide rule for estimating electrode requirements. It shows directly the length of arc welded joints obtainable per 100 pounds of electrode, and pounds of weld metal deposited per 100 pounds electrode. Information covers 11 commonly used sizes and types of joints, and 22 sizes and types of popular electrodes in 12- and 18-inch lengths. It gives a selector chart that shows the various metal classifications as specified by the American Welding Society, and types of electrodes that meet these classifications.

Compressors

Pennsylvania Pump & Compressor Company, Easton, Pennsylvania, has issued Bulletin 192 on its line of horizontal duplex heavy-duty compressors. Units in standard sizes are available in capacities up to 3100 cubic feet piston displacement for pressures of 80 to 125 pounds gauge, and other types and sizes can be furnished for lower or higher pressures. They can be equipped for drive by synchronous electric motor direct connected to the main shaft, or by flat or V-belt, and feature five-step regulation.

Pumping Rig

The National Supply Company, Toledo, Ohio, has issued Bulletin 300 on its Type TU24G-JD2TP unit pumper, designed for single-well pumping in shallow fields, for installations where topography is rough, or where it is desirable to vary strokes and duration of pumping as between wells. It has an API walking beam rating of 3200 pounds.

Jacks

Templeton, Kenly & Company, 1020 South Central Avenue, Chicago, has issued Catalog 41, giving 56 pocket-size pages descriptive of its line of jacks for lifting, lowering, pushing, pulling and supporting. It includes revised price schedules, effective June 2, 1941.

Controllers

The Bristol Company, Waterbury, Connecticut, has issued Catalog 572 describing time-cycle controllers for general process operations and coordinated process control. It is illustrated with line drawings to show principle of operation and method of use on a variety of plant processes.

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For mineral lease or leases, approximately 35,000 acres, divided into blocks of less than 5,000 acres each, extending South from Sec. 14, Township 21 South, Range 22 East, to the Gulf of Mexico, and East of Cammada Bay, situated in the Parish of Lafourche or Jefferson, State of Louisiana.

Specifications including detailed descriptions of lands may be obtained from the undersigned.

Sealed bids will be received at the office of the Mayor of New Orleans, Louisiana, on or before the 12th day of August, 1941.

EDWARD WISNER DONATION ADVISORY COMMITTEE
Fred W. Matthews, Secretary-Treasurer
c/o CHARITY HOSPITAL, New Orleans, La.

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* Indicates that detailed information on the manufacturer's products or services may be found in the 1941 edition of The Composite Catalog of Oil Field & Pipe Line Equipment.